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**PROCEEDINGS
OF THE
AMERICAN ASSOCIATION OF MUSEUMS**

VOL. VI

1912

PROCEEDINGS
OF THE
AMERICAN ASSOCIATION OF MUSEUMS

RECORDS OF THE SEVENTH ANNUAL MEETING
HELD IN NEW YORK CITY

JUNE 4-7, 1912

CHARLESTON, S. C.

1912

FOUNTAIN MUSEUM
PACIFIC UNIVERSITY
SEP 16 1927
Sept. 16, 1927.

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CHARLESTON, S. C.

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AMERICAN ASSOCIATION OF MUSEUMS**

1912-1913

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PROCEEDINGS
OF THE
Seventh Annual Meeting
OF THE
American Association of Museums
HELD IN NEW YORK CITY
June 4 - 7, 1912

SESSION OF TUESDAY, JUNE 4

Morning

The Association assembled in the American Museum of Natural History at 9 a.m. for registration and inspection of the Museum. At 10 o'clock the opening session was called to order by President Edward S. Morse.

The Chair introduced Dr. Henry Fairfield Osborn, president of the American Museum of Natural History, who delivered the address of welcome as follows:

Dr. Osborn.—"Mr. President and Members of the American Association of Museums: It is a pleasure to welcome this Association on behalf of the trustees of the American Museum and the municipality of the City of New York, as this institution represents a combination of public and private endeavor. It occurred to me that, since the relation between museums and municipalities is a question which has arisen in one American city after another, I might say a few words of interest to you on that subject.

"The American Museum was founded in 1869, and it is interesting to remember that it received its inspiration from Louis Agassiz through Professor Albert Bickmore, a pupil of Agassiz, who came to New

York with the idea of building a museum of natural history; that he succeeded in interesting a group of men, prominent among whom was Theodore Roosevelt, father of the ex-president; and that this group of men got together and presented a plan of organization to the City. It happened that in the application for land it was necessary to apply to the department of parks. Historically, therefore, our relation to that department and to the City of New York, through that department, came about in this way.

"The radical feature of our organization, which has been demonstrated to be almost ideal, is this: The City entrusts the government of the Museum entirely to a board of self-perpetuating trustees. It provides the building and contributes a certain proportion of the maintenance. The trustees obligate themselves to present to the Museum all the collections, to conduct all the scientific work, the publications, explorations, and everything of that kind. Thus, the heating, lighting, and actual care of the collections is supported by the municipality, but the collections themselves are the gift of the citizens of New York.

"You will see at once that this ensures an interest on the part of the individual citizens in the growth of the Museum which cannot be secured in an institution governed wholly by the City.

"The municipality and the trustees have faithfully kept and sustained this relation, and there has been no political interference in the management of the institution. The City hands over to the trustees the sum devoted to maintenance or to building, and the trustees are held responsible for the proper administration of that sum. They are always ready to show the City all the details of management, and every bill that goes to the Museum has to pass through the hands of the municipal authorities to be approved before it is paid. But there is nothing which might be called political interference in the appointment of any member of the board of trustees or of the administrative staff.

"It will interest you to know that this charter has formed a model on which New York has built up all its other great institutions of a similar character, including the Metropolitan Museum of Art, established in 1870; the Botanical Garden; and the Zoölogical Society, which controls the Zoölogical Park and the Aquarium. I should mention also the Brooklyn Museums, in which this relation is sustained in a measure, but not quite in the same degree as in the others.

"The responsibility thus thrown upon individual citizens is felt increasingly every year, and it is reflected in what is called the museum

membership. This now contributes the sum of nearly twenty thousand dollars annually, there being about three thousand members.

"The gifts to the Museum more than keep pace with the amounts contributed by the City, so that during the present year the City contributes \$195,000 to our maintenance, while the trustees, members, and friends will be found to contribute something like \$250,000, or \$55,000 more than the total amount given by the City. The same is true in our larger sister institution, the Metropolitan Museum of Art.

"It seems to me that the problem which presents itself to other cities contemplating the establishment of museums has been settled in advance in New York by the abundant success of this great municipal experiment of institutions built and partly maintained at public expense, but governed entirely by a group of the most intelligent citizens who can be secured for the purpose. It has been shown that the greatest amount of administrative, intellectual, and scientific ability can be assembled in the government of these institutions—the ability of men whom the City could not purchase, men of affairs, of taste, of intelligence, of integrity, and it is due to them that these institutions stand where they do and are growing to be the pride of the metropolis, enormously popular, sustained in an overwhelming degree by public opinion, and heartily supported by either political government, whether Reform, or Tammany, or Republican.

"It seems to me that we have a great advantage in New York over government-controlled institutions of the type which prevails in Europe, or over the noble institutions which have grown up in this country wholly under private or individual control.

"It is not fair that institutions for the public benefit should not put any tax upon the public, except the small tax which is gained by admission fees. It is right, it is in common sense and common justice, that the people of the city should through taxation contribute to the support and up-building of these institutions, and thereby release large sums of money which the trustees of these institutions may devote to scientific research, exploration, and the development of exhibitions.

"I especially invite your attention to this aspect of our government as one which has stood the test of forty-four years, and is growing in public favor. It would be well for us, as Americans, and as the American Association of Museums, to use our influence to introduce it in other cities, like the great city of San Francisco, which con-

templates the establishment of a natural history museum in connection with the coming Panama celebration.

"Once more, Mr. President, let me say that in bidding you welcome everything in our power will be done to extend our hospitality, not only from this museum, but from the Zoölogical Society, and from the the great sister institution—the Metropolitan Museum of Art." (*Applause.*)

President Morse.—"We are certainly indebted to Dr. Osborn for giving us the history, the marvelous history, of this museum. As an old museum man, I remember the efforts of Thomas Bland, of Brooklyn, to start a museum with a mere pittance in a private house that he bought for the purpose. Now I see the astounding spectacle of the municipality building so superbly and generously an institution of this kind.

"New York is a surprise to us in many different ways. When I came here a few years ago they were running horse cars, which we had abandoned in New England years ago, and now we see the most modern system of transportation in the wonderful subways of New York. So it has been in the matter of museums. New York struggled along for many years with a small museum, and now we are confronted with the fact that the coal bill of the American Museum exceeds the entire income of the Peabody Museum at Salem, Massachusetts. That gives one quite a shock at first, until it is realized that the coal bill of the Peabody Museum exceeds the entire income of some other museums in the country. (*Applause.*) But every one of these museums, rich or poor, large or small, is carried on by men eager to advance the education of the people and to make museums of the greatest educational value.

"The museums stand next to the libraries. You may write what you please in describing an object, but when you go to a museum and see the object itself you gain a better realization of what it is than by reading about it. I believe that the people should appreciate more and more how close the public museum stands to the public library, and the sooner that time comes the greater will be the practical value of both.

"In the Peabody Museum at Salem, in connection with each collection of specimens, such as the coral reefs of the Pacific, or the shells of the Phillipines, we give the numbers of the books in the public library referring to that particular topic, so that those interested in the subject can gain all the knowledge regarding it that they desire.

In my opinion, this is the most useful method of co-operation between the museum and the library and, as far as I know, it is in effect only at the Peabody Museum.

"I repeat that the public should appreciate more and more the value and character of our museums, and I am glad that Dr. Osborn has called attention to the fact that we must appeal ultimately to the intelligent municipality for the liberal maintenance and support of museums." (*Applause.*)

The roll of attendance was then called by the Secretary. The following members were present:

ROLL OF ATTENDANCE

- Mr. Thomas W. Adickes, North Carolina State Museum, Raleigh, N. C.
Mr. Serafino Agostini, Carnegie Museum, Pittsburgh, Pa.
Miss Helen J. Aitken, Brooklyn Institute Museum, Brooklyn, N. Y.
Mr. Carl E. Akeley, American Museum of Natural History, New York City.
Dr. J. A. Allen, American Museum of Natural History, New York City.
Mr. Frederick Altman, Brooklyn Institute Museum, Brooklyn, N. Y.
Mr. Frank C. Baker, Chicago Academy of Sciences, Chicago, Ill.
Miss Helen J. Baker, Metropolitan Museum of Art, New York City.
Dr. Edwin Atlee Barber, Pennsylvania Museum and School of Industrial Art, Philadelphia, Pa.
Mr. Cheshire Lowton Boone, Department of Art and Handiwork, Public Schools of Montclair, Montclair, N. J.
Miss Agnes L. Bowen, Children's Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
Mr. Joseph Breck, Metropolitan Museum of Art, New York City.
Mr. Herbert H. Brimley, North Carolina State Museum, Raleigh, N. C.
Dr. N. L. Britton, New York Botanical Garden, New York City.
Mr. C. Emerson Brown, Peabody Museum, Salem, Mass.
Mr. William L. Bryant, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Miss Marguerite W. Carmichael, Children's Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
Mr. N. H. Carpenter, Art Institute, Chicago, Ill.
Mr. Thomas F. Casey, Brooklyn Institute Museum, Brooklyn, N. Y.
Miss Anna C. Chandler, Metropolitan Museum of Art, New York City.
Mr. Frank M. Chapman, American Museum of Natural History, New York City.
Mr. William Clifford, Metropolitan Museum of Art, New York City.
Miss Laura H. Cooke, Metropolitan Museum of Art, New York City.
Dr. A. R. Crook, Illinois State Museum of Natural History, Springfield, Ill.
Mrs. A. R. Crook, Springfield, Ill.
Dr. Carlos E. Cummings, Buffalo Society of Natural Sciences, Buffalo, New York.
Dr. Joseph A. Cushman, Boston Society of Natural History, Boston, Mass.
Mr. Robert W. de Forest, Metropolitan Museum of Art, New York City.
Mr. Jacob Doll, Brooklyn Institute Museum, Brooklyn, N. Y.

- Miss Miriam S. Draper, Children's Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
- Dr. Oliver C. Farrington, Field Museum of Natural History, Chicago, Ill.
- Mr. William L. Fisher, Philadelphia Museums, Philadelphia, Pa.
- Miss Sarah G. Flint, Museum of Fine Arts, Boston Mass.
- Mr. J. B. Foulke, American Museum of Natural History, New York City.
- Mr. Durr Friedley, Metropolitan Museum of Art, New York City.
- Miss Anna B. Gallup, Children's Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
- Miss Margaret Gash, Metropolitan Museum of Art, New York City.
- Mr. Frank Butler Gay, Wadsworth Atheneum and Morgan Memorial, Hartford, Connecticut.
- Miss Marjory L. Gilson, Newark Museum Association, Newark, N. J.
- Mr. William H. Goodyear, Brooklyn Institute Museum, Brooklyn, N. Y.
- Dr. M. J. Greenman, Wistar Institute, Philadelphia, Pa.
- Miss Delia Isabel Griffin, Fairbanks Museum of Natural Science, St. Johnsbury, Vermont.
- Miss Anna Hall, Pittsburgh, Pa.
- Mr. Robert C. Hall, Hall Museum of Anthropology, Pittsburgh, Pa.
- Mrs. Robert C. Hall, Pittsburgh, Pa.
- Miss Emily N. Hathaway, Metropolitan Museum of Art, New York City.
- Miss Eleanor G. Hewitt, Museum of the Arts of Decoration, Cooper Union, New York City.
- Miss Susan A. Hutchinson, Brooklyn Institute Museum, Brooklyn, N. Y.
- Mr. R. A. Holland, City Art Museum, St. Louis, Mo.
- Dr. Arthur Hollick, New York Botanical Garden, New York City.
- Mrs. Arthur Hollick, New York City.
- Miss Ida R. Hood, American Museum of Natural History, New York City.
- Dr. William T. Hornaday, New York Zoological Park, New York City.
- Dr. Marshall A. Howe, New York Botanical Garden, New York City.
- Mr. Henry R. Rowland, Buffalo Society of Natural Sciences, Buffalo, N. Y.
- Mr. D. C. Hughes, Carnegie Museum, Pittsburgh, Pa.
- Miss Susan A. Hutchinson, Brooklyn Institute Museum, Brooklyn, N. Y.
- Mr. William J. Hyett, Carnegie Institute, Pittsburgh, Pa.
- Mr. Lawrence W. Jenkins, Peabody Museum, Salem, Mass.
- Mrs. Lawrence W. Jenkins, Salem, Mass.
- Mrs. Otto E. Jennings, Carnegie Museum, Pittsburgh, Pa.
- Mr. Charles W. Johnson, Boston Society of Natural History, Boston, Mass.
- Mr. R. A. A. Johnston, Victoria Memorial Museum, Ottawa, Canada.
- Miss Agnes Jones, Metropolitan Museum of Art, New York City.
- Mr. Albert F. Judd, Bernese P. Bishop Museum, Honolulu, H. I.
- Mr. Herbert B. Judy, Brooklyn Institute Museum, Brooklyn, N. Y.
- Mr. Henry W. Kent, Metropolitan Museum of Art, New York City.
- Mr. Francis Kermodé, Provincial Museum, Victoria, B. C.
- Mrs. Francis Kermodé, Victoria, B. C.
- Frau Wilhelma Korte, Metropolitan Museum of Art, New York City.
- Dr. George Frederick Kunz, American Museum of Natural History, New York City.
- Miss Mary Day Lee, Children's Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.

- Miss Florence N. Levy, Metropolitan Museum of Art, New York City.
Mr. Frederick L. Lewton, United States National Museum, Washington, D. C.
Dr. Frederic A. Lucas, American Museum of Natural History, New York City.
Miss Jannette May Lucas, American Museum of Natural History, New York City.
Mr. Harold L. Madison, Park Museum, Providence, R. I.
Miss Margaret C. Magher, Metropolitan Museum of Art, New York City.
Miss Eva W. Magoon, Park Museum, Providence, R. I.
Prof. William C. Mills, Ohio State Archaeological and Historical Society, Columbus, Ohio.
Dr. C. F. Millsbaugh, Field Museum of Natural History, Chicago, Ill.
Mr. Roy. W. Miner, American Museum of Natural History, New York City.
Mr. Antonio Miranda, Brooklyn Institute Museum, Brooklyn, N. Y.
Mr. E. L. Morris, Brooklyn Institute Museum, Brooklyn, N. Y.
Mrs. E. L. Morris, Brooklyn, N. Y.
Miss Frances Morris, Metropolitan Museum of Art, New York City.
Prof. Edward S. Morse, Peabody Museum, Salem, Mass.
Mr. Samuel L. Parrish, Southampton Art Museum, Southampton, N. Y.
Miss Florence Paull, Museum of Fine Arts, Boston, Mass.
Miss Ethel A. Pennell, Metropolitan Museum of Art, New York City.
Miss Clara N. Perine, Wistar Institute, Philadelphia, Pa.
Mr. Albert Hastings Pitkin, Morgan Memorial, Wadsworth Atheneum, Hartford, Connecticut.
Miss Agnes L. Pollard, Staten Island Association of Arts and Sciences, New Brighton, N. Y.
Mr. Charles Louis Pollard, Staten Island Association of Arts and Sciences, New Brighton, N. Y.
Mr. Edward K. Putnam, Davenport Academy of Sciences, Davenport, Iowa.
Miss Elizabeth D. Putnam, Davenport, Iowa.
Miss Caroline L. Ransom, Metropolitan Museum of Art, New York City.
Dr. Percy E. Raymond, Geological Survey of Canada, Ottawa, Canada.
Mr. Paul M. Rea, Charleston Museum, Charleston, S. C.
Mrs. Paul M. Rea, Charleston, S. C.
Mr. Robert H. Rockwell, Brooklyn Institute Museum, Brooklyn, N. Y.
Mr. Boyd P. Rothrock, Pennsylvania State Museum, Harrisburg, Pa.
Mrs. Boyd P. Rothrock, Pennsylvania State Museum, Harrisburg, Pa.
Mr. A. E. Rueff, Brooklyn Institute Museum, Brooklyn, N. Y.
Mr. Herbert E. Sargent, Kent Scientific Museum, Grand Rapids, Mich.
Mr. Charles Schaeffer, Brooklyn Institute Museum, Brooklyn, N. Y.
Mr. George H. Sherwood, American Museum of Natural History, New York City.
Mr. Charles F. Silvester, Museum of Princeton University, Princeton, N. J.
Dr. John K. Small, New York Botanical Garden, New York City.
Mr. Douglas Steward, Carnegie Museum, Pittsburgh, Pa.
Mr. M. J. Stotsenburg, Wistar Institute, Philadelphia, Pa.
Miss M. J. Stribling, Carnegie Museum, Pittsburgh, Pa.
Dr. James E. Talmage, Deseret Museum, Salt Lake City, Utah.
Mr. Charles R. Toothaker, Philadelphia Museums, Philadelphia, Pa.
Dr. Ralph W. Tower, American Museum of Natural History, New York City.
Dr. Charles H. Townsend, New York Aquarium, New York City.

Dr. W. R. Valentiner, Metropolitan Museum of Art, New York City.
Miss Lucy E. Wallace, Metropolitan Museum of Art, New York City.
Mr. Henry L. Ward, Milwaukee Public Museum, Milwaukee, Wis.
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Mrs. Frederic Allen Whiting, Indianapolis, Ind.
Mr. C. P. Wilcomb, Oakland Public Museum, Oakland, Cal.
Miss Mildred W. Wilson, Philadelphia, Pa.
Dr. W. P. Wilson, Philadelphia Museums, Philadelphia, Pa.
Dr. Clark Wissler, American Museum of Natural History, New York City.
Miss Amy Woods, Charleston Museum, Charleston, S. C.

Secretary Paul M. Rea then presented the following report:

REPORT OF THE SECRETARY

Your Secretary has the honor to submit the following report for the year 1911-12:

The proceedings of the Boston meeting were edited and printed during the summer and published in November.

In addition to the usual correspondence, circulars have been prepared giving particulars of the special offer of the publications of the Association at half price to new members, as authorized at the Boston meeting. Largely as a result of this special effort there have been added to the rolls 6 Sustaining, 52 Active, and 21 Associate Members, a larger increment in membership than in any previous year of our history. This accession of new members encourages the hope that the Association will attain a self-supporting basis in the near future.

The new members received since the last meeting are as follows:

NEW MEMBERS

Sustaining Members

Department of Archaeology, Phillips Academy, Andover, Mass.
Geological Survey of Canada, Ottawa, Canada.
Joseph Moore Museum, Earlham College, Earlham, Ind.
Museo de Historia Nacional, Montevideo, Uruguay.
Springfield Art Museum, Springfield, Mass.
Worcester Art Museum, Worcester, Mass.

Active Members

Mr. L. A. Adams, Director of the Museum, State Normal School, Greeley, Col.
Mr. Serafino Agostini, Assistant Preparator, Department of Paleontology, Carnegie Museum, Pittsburg, Pa.

- Mr. Frederick Altman, Assistant Taxidermist, Brooklyn Institute Museum, Brooklyn, New York.
- Miss Helen J. Baker, Assistant, Metropolitan Museum of Art, New York City.
- Mr. R. S. Bassler, Curator of Paleontology, United States National Museum, Washington, D. C.
- Miss Marcia Bisbee, Curator of Museum, University of North Dakota, University, North Dakota.
- Mr. Cheshire Lowton Boone, Director, Department of Art and Handiwork, Public Schools of Montclair, Montclair, N. J.
- Mr. Thomas F. Casey, Superintendent of Buildings, Brooklyn Institute Museum, Brooklyn, N. Y.
- Miss Anna C. Chandler, Assistant, Metropolitan Museum of Art, New York City.
- Mr. Frank M. Chapman, Curator of Ornithology, American Museum of Natural History, New York City.
- Mr. William Clifford, Librarian, Metropolitan Museum of Art, New York City.
- Miss Laura H. Cooke, Special Assistant, Metropolitan Museum of Art, New York City.
- Prof. Charles Wright Dodge, Curator of Botany and Zoölogy, Museum of the University of Rochester, Rochester, N. Y.
- Prof. B. K. Emerson, In charge of Geology, Amherst College Museum, Amherst, Mass.
- Prof. H. L. Fairchild, Curator of Geology and Paleontology, Museum of the University of Rochester, Rochester, N. Y.
- Mr. William L. Fisher, Assistant Curator, Philadelphia Museums, Philadelphia, Pa.
- Miss Sarah J. Flint, Assistant, Museum of Fine Arts, Boston, Mass.
- Mr. James Zacchaeus Gilbert, In charge, Science and Art Museum, High School, Los Angeles, Cal.
- Miss Marjory L. Gilson, Assistant Secretary, Newark Museum Association, Newark, N. J.
- Miss Emily N. Hathaway, Assistant, Metropolitan Museum of Art, New York City.
- Miss Eleanor G. Hewitt, Custodian, Museum of the Arts of Decoration, Cooper Union, New York City.
- Miss Ida Richardson Hood, Assistant Librarian, American Museum of Natural History, New York City.
- Mr. D. C. Hughes, Assistant in Section of Archaeology and Ethnology, Carnegie Museum, Pittsburgh, Pa.
- Miss Susan A. Hutchinson, Curator of Books, Brooklyn Institute Museum, Brooklyn, N. Y.
- Mrs. Ophelia Jacobs, Curator, Daniel B. Dyer Museum, Kansas City, Mo.
- Mr. R. A. A. Johnston, Curator of the Museum, Geological Survey, Ottawa, Canada.
- Mr. Albert F. Judd, President of Trustees of Bernese P. Bishop Museum, Honolulu, H. I.
- Mr. Herbert B. Judy, Artist, Brooklyn Institute Museum, Brooklyn, N. Y.
- Prof. Alfred L. Kroeber, Curator of the Anthropological Museum, University of California, San Francisco, Cal.
- Mr. Frederick L. Lewton, Curator, Division of Textiles, United States National Museum, Washington, D. C.

- Miss Jannette Lucas, American Museum of Natural History, New York City.
Miss Margaret C. Magher, Assistant, Metropolitan Museum of Art, New York City.
Miss Eva W. Magoon, Assistant, Park Museum, Providence, R. I.
Mr. Antonio Miranda, Artist, Brooklyn Institute Museum, Brooklyn, N. Y.
Miss Florence V. Paull, Assistant, Museum of Fine Arts, Boston, Mass.
Miss Ethel A. Pennell, Assistant in charge of Photographs, Metropolitan Museum of Art, New York City.
Dr. George H. Perkins, Curator of the Museum, University of Vermont, Burlington, Vt.
Mr. Harry Piers, Curator, Provincial Museum, Halifax, Nova Scotia, Canada.
Miss Caroline L. Ransom, Assistant Curator, Department of Egyptian Art, Metropolitan Museum of Art, New York City.
Mr. Robert H. Rockwell, Taxidermist-in-chief, Brooklyn Institute Museum, Brooklyn, N. Y.
Mr. A. E. Rueff, Assistant in Art Department, Brooklyn Institute Museum, Brooklyn, N. Y.
Mr. Charles F. Silvester, Curator of Zoölogy, Museum of Princeton University, Princeton, N. Y.
Dr. Harlan I. Smith, Government Archaeologist, Ottawa, Canada.
Dr. Leonhard Stejneger, Head Curator of the Department of Biology, United States National Museum, Washington, D. C.
Mr. Herbert L. Stoddard, Assistant Taxidermist, Milwaukee Public Museum, Milwaukee, Wis.
Mr. E. H. Thomas, Taxidermist, Kansas State Normal School, Emporia, Kansas.
Miss Helen Thompson, Assistant, University of Michigan Museum, Ann Arbor, Michigan.
Mr. T. Van Hyning, Director of the Museum, Historical Department of Iowa, Des Moines, Iowa.
Miss Lucy E. Wallace, Assistant Librarian, Metropolitan Museum of Art, New York City.
Mr. Frederic Allen Whiting, Director, John Herron Art Institute, Indianapolis, Indiana.
Miss Amy Woods, Acting Assistant Secretary, American Association of Museums, Charleston Museum, Charleston, S. C.

Associate Members

- Miss Agnes L. Bowen, Assistant, Children's Museum, Brooklyn Institute, Brooklyn, New York.
Mr. Joseph Breck, Assistant Curator, Metropolitan Museum of Art, New York City.
Miss Marguerite W. Carmichael, Clerk, Children's Museum, Brooklyn Institute, Brooklyn, N. Y.
Mrs. A. R. Crook, Springfield, Ill.
Mr. Jacob Doll, Curator of Entomology, Museum of the Brooklyn Institute, Brooklyn, N. Y.
Miss Miriam S. Draper, Assistant Librarian, Children's Museum, Brooklyn Institute, Brooklyn, N. Y.

- Mr. J. B. Foulke, Administrative Assistant, American Museum of Natural History, New York City.
- Mr. Durr Friedley, Assistant, Metropolitan Museum of Art, New York City.
- Miss Margaret Gash, Assistant, Metropolitan Museum of Art, New York City.
- Miss Anna Hall, Pittsburg, Pa.
- Mrs. Arthur Hollick, New York City.
- Mrs. L. W. Jenkins, Salem, Mass.
- Miss Agnes Jones, Clerical Assistant, Metropolitan Museum of Art, New York City.
- Mrs. Francis Kermode, Victoria, B. C.
- Frau Wilhelma Korte, In charge mending of Tapestries, Metropolitan Museum of Art, New York City.
- Miss Mary Day Lee, Assistant Curator, Children's Museum, Brooklyn Institute, Brooklyn, N. Y.
- Miss Elizabeth D. Putnam, Davenport, Iowa.
- Mr. Charles Schaeffer, Associate Curator, Department of Entomology, Museum of the Brooklyn Institute, Brooklyn, N. Y.
- Miss M. J. Stribling, Stenographer to the Director, Carnegie Museum, Pittsburg, Pa.
- Mr. W. R. Valentiner, Curator of the Decorative Arts, Metropolitan Museum of Art, New York City.
- Mrs. Frederic A. Whiting, Indianapolis, Ind.

The rule requiring the Secretary to withhold publications from members in arrears has been enforced, and over \$130 has been collected from members in arrears. Some of these accounts were of three years standing and the collections made in this way are of material aid to our treasury.

For the coming year all members are urged to exert themselves in securing new members, thus extending the influence of the Association and increasing its resources. The greatest problem requiring attention is that of increasing the membership and interest among museums of art and history as well as science. Since the Association is concerned primarily with problems of method and administration it should be possible to make its work appeal equally to all classes of museums, and this must be done if we are to live up to our name—American Association of Museums, rather than American Association of Natural History Museums.

Respectfully submitted,
PAUL M. REA, *Secretary*.

Treasurer W. P. Wilson then presented a summary of his report, showing a balance on hand of \$434.18. The full report was referred to an auditing committee consisting of Messrs. Oliver C. Farrington,

Charles W. Johnson, and Henry L. Ward, which reported at a later session that the accounts of the treasurer had been examined and found correct.

Dr. Wilson.—"Mr. President, as Treasurer of the Association, I desire to place the following memorandum on our records:

"The American Association of Museums, now seven years old, has grown gradually to be a large and increasingly important organization, discussing topics of great interest to all museum workers, and including in its membership almost all the leading museums of the United States and of many foreign countries in North, Central, and South America.

"The Association has not done this at once and without the aid of its friends. Each year we have enlarged our scope and increased the importance of our proceedings. This has not always been possible on the income from our members or through the unaided and ardent labors of our devoted secretary, Mr. Rea, who gives much of his valuable time to the interests and the *Proceedings* of the Association.

"At our meeting of 1911, in order to give the Association the much-needed help of an assistant secretary, two of our most active members, Dr. Holland, director of the Carnegie Museum in Pittsburgh, and Dr. Skiff, director of the Field Museum of Natural History in Chicago, volunteered a donation of two hundred dollars each for this purpose.

"It might be added that through the labors of the Secretary the treasury now contains over four hundred dollars, and it is expected that the Association will be self-supporting from this time on.

"The Association owes cordial thanks to both these gentlemen, who cannot be thanked in person because they are unavoidably absent from this meeting. I move, therefore, that a cordial vote of thanks be extended to Dr. Holland and Dr. Skiff for their highly appreciated donations."

Dr. Wilson's motion was duly seconded and unanimously adopted.

President Morse.—"The Secretary will read a resolution passed last night at the meeting of the Council."

Secretary Rea.—"For the purpose of defining more explicitly the policy of the Association; for the guidance of members in the preparation of papers; and in order to make it easier to explain to some of our sister bodies which are dealing with the arts or sciences the purposes of this Association and the reasons why it should appeal alike to all classes of museums, the Council presents the following resolution:

'Resolved, That it is the sense of the Council that it should be the policy of the Association to deal with the principles of organization and administration of museums, and with their problems of technique, rather than with matters of art, history, or science as such.'"

The resolution of the Council, as read by the Secretary, was unanimously endorsed by the Association.

There being no further business to come before the Association, Dr. A. R. Crook, curator of the Illinois State Museum of Natural History, presented the following paper:

NOTES ON RUSSIAN NATURAL HISTORY MUSEUMS

Comparison between the natural history museums of Russia and those of our country is interesting because of several points of similarity between Russia and the United States. Russia has similar expanse of territory, the same variety of climate, physiographic features, geological history, fauna and flora. The nation had its awakening and first pronounced progress under Peter the Great, less than seventy-five years before the crystallization of our nation under Washington. With similar time during which to grow, the question may be asked as to what stage has been reached in natural history museum development in the two countries? Museum conditions in the United States are well known to all of us. Those of Russia are slightly known.

My first acquaintance with Russian museums was obtained on a journey which carried us through Warsaw, Moscow, Samara, Ufa, Simsk, Zlatoust, and Miask to Chelyabinsk; that is, from the western border of the country to the Asiatic side of the Urals; then north along the mountains to Ekaterinburg and back through Perm, Kazan, Nijni Novgorod, and Moscow to St. Petersburg. After an excursion to Finland we went south through Tula, Kursk, Kharkov, Novochechensk, Pjatigorsk, and Vladikavkaz to Tiflis, from the northern to the southern border of the country. From Baku on the Caspian we returned through Batoum and Sebastopol and other points on the Black Sea to Odessa. Thus twenty-two towns and cities were visited, nearly all of which have one or more museums.

The number and variety of their museums is great. Museums of art, of antiquities, of coins, of soils, of geology, of botany, of zoölogy and of ethnology are found not only in cities, but often in remote villages. They are connected with universities; with academies of science

and military medical academies; with institutions of technology, of mining, and of highways; with botanical and zoölogical gardens; and with individuals. Many of them are in little towns and villages and are not listed in *Minerva* or otherwise known to fame. They exist in spite of lack of funds and in the face of other obstacles.

To bring the information obtained by personal visit up to date, in March of this year I sent out a questionnaire to thirty-five directors of museums in the above mentioned towns and as the replies are received they are being tabulated and will, I hope, contribute materially to information on the subject inasmuch as I have been able to obtain only very meager data in any publication. As soon as the table is complete it will be presented for publication.

The questions presented develop the fact that great progress has been made in recent years in the collection of materials by enthusiastic workers. Russian curators have the acquisitive instinct well developed and fortunately a fertile field in which to give that faculty full play. Some of them report a twenty-fold increase in their collections within the last ten years and many of the institutions have more than doubled their possessions during that time.

The buildings in which the museums are housed are often old palaces or buildings used for other than strictly museum purposes. I know of but one building in all Russia built solely for museum purposes. While spaciousness, often extravagant and in a manner reflecting the vastness of Russian territory, characterizes Russian buildings generally, practically all of their museums are in contracted quarters often ill lighted and poorly equipped.

The amount of money appropriated for their maintenance is small and consequently their merit is not in display of materials but in their collections, which is proper since in this manner the present prepares for the future.

At the head of the list stand the museums of the Imperial Academy of Sciences at St. Petersburg, comprising the botanical, zoölogical, geological, mineralogical, and ethnographical departments.

The botanical department occupies but about ten thousand square feet of exhibition space, but contains materials which have been assembled by various workers during the last three hundred years. About twenty thousand specimens are now added annually. The department has only twelve hundred dollars annually to spend.

The zoölogical collections are interesting chiefly because of their exhibition of Silurian mammoths and megatheriums.

The geological museum contains a general collection of fossils arranged in cases around the walls, while all type specimens which have been described in one paper are put together in one case rather than in a position to show their taxonomic relations.

The mineral cabinet contains many interesting meteorites but the chief mineralogical museum is that in connection with the Institute of Mines.

The Museum of Anthropology has about twenty-five thousand square feet of exhibition space in which to show its one hundred thousand specimens. Within the last ten years its collections have increased twenty-fold, although for all purposes its annual expenditures are about twelve thousand dollars.

The University of St. Petersburg has a museum of mineralogy and geology. The mineral section occupies a room twenty-four by thirty feet and contains about ten thousand specimens. There is a good exhibition of soils, constituting a display which might well be imitated more generally throughout the United States. The petrographical museum occupies a room twenty-one by thirty feet and has thirteen thousand specimens. Paleontology occupies three rooms twenty-four by thirty feet and contains fifty-four thousand specimens.

The chief museum of mineralogy in Russia, however, is not that connected with either of the two institutions named, but rather the one connected with the Mining Institute. It is one of the most important sights in St. Petersburg. The rooms which it occupies are rather long, narrow and dark, with low ceilings, but they contain many interesting specimens, among them a mass of malachite weighing two thousand nine hundred pounds, a gold nugget weighing seventy pounds and valued at twenty thousand dollars, a mass of platinum weighing ten pounds, the largest known topaz, weighing twenty-four pounds, found in the Ural Mountains, and a fine transparent beryl from the same locality, valued at twenty-one thousand dollars. The collection is especially strong in quartzes, turquois, sapphires, alexandrites, sulphur, and pearls. In the basement of the building is an interesting exhibit of mining and quarrying machinery. In the cellar there are in natural size tunnels, shafts, and other things constituting a real mine.

The university of Moscow has probably the best geological museum in the country. I was interested in noticing that Dana's system is the basis for the classification of the minerals.

The museums in Kazan and Kharkov, also in connection with the universities of those towns, are similar in arrangement and in ideals to those of Moscow.

One of the most interesting institutions of this character in the country is that at Tiflis, where since 1852 the museum has exhibited the fauna, flora, and geology of the Caucasus region. Since 1864 for more more than forty years this institution was in charge of Dr. Radde who was such an enthusiast that in spite of very meagre support, he was able to bring together the interesting and valuable materials of all kinds. It is surprising to note that, though lacking in money and equipment, he employed some of the same methods which are being taken up with such enthusiasm in some parts of this country. Though unable to enclose his zoological specimens in cases, he formed groups with natural surroundings and had the walls of the room painted to represent the background. The collections are housed in an old palace and every portion of the building has been crowded full of exhibits.

It is customary to have the museums open but from two to five days in the week and the public is not urged to make use of them.

Summing up the whole situation it is evident that Russia in no degree approaches this country in any of its natural history museums.

In the absence of the author, Secretary Rea read the following paper by Miss Laura M. Bragg, curator of books and public instruction in the Charleston Museum:

AN ADAPTATION OF THE GOODYEAR CLASSIFICATION OF THE FINE ARTS TO THE DEWEY SYSTEM OF NUMBERING

"The desirable projection of art museums as suggested by the desirable classification of art libraries" is the title of a paper by Professor William H. Goodyear, published in the third volume of the *Proceedings* of the American Association of Museums. This paper presents an historical classification for books treating of the fine arts. Professor Goodyear contends that the historical arrangement is the only logical one for an art library. His arguments are convincing and obviously based upon a thorough and expert knowledge of the history of art. If Professor Goodyear's familiarity with a librarian's practical problems could have been proportionately extensive there would be no occasion for the present paper, which is merely an attempt to adapt his classification to the decimal system of numbering as worked

out in the classification most generally used by the librarians of this country, namely, the Dewey classification.

It is now nearly three years since I chanced upon Professor Goodyear's article. I was then re-classifying our library at the Charleston Museum and the proposed scheme appealed to me as most desirable for our own small collection of books relating to the fine arts. But since we had adopted the Dewey system in other departments, a separate classification for art books seemed too great a departure from that ideal of consistency for which every librarian is supposed to labor, however vainly. Yet the new classification was greatly superior to the Dewey scheme. The historical order was logical. Had I not, only the month before, revised Dewey's decimal classification for zoölogy and botany so as to bring it more in accord with modern scientific thought and the historical development of animal and plant life? If the decimal system could be made historical, surely the historical scheme could be made decimal. As the result of this line of reasoning, I herewith present my adaptation of the Goodyear classification. Professor Goodyear has asked: "Is there anything better than the Dewey system?" and in reply affirms: "There must be something better because nothing could be worse. Hence I offer, with great confidence, my own system as being something better." Unlike Professor Goodyear I, as a librarian, can conceive of worse classifications than the Dewey, but like him I also, with great confidence offer my own scheme, in the hope that librarians will see in it the good points of both classifications and the faults of neither.

700	FINE ARTS. General.
016.700	Bibliographies.
701	Philosophy and criticism of art.
.1	Historic art.
.2	Architecture.
.3	Sculpture.
.4	Painting.
.5	Ornament.
.6	Aesthetics.
.7	Miscellanies.
702	Miscellaneous and popular summaries. Compendis.
703	Encyclopedias and dictionaries, arranged by period chronologically, then by subject.
704	Essays, miscellanies.
705	Periodicals.
706	Societies, reports, etc.

- 707 Institutions.
 - Schools—technical instruction.
 - Museums, museum handbooks, alphabetically arranged by cities.
- 708 Travel—general. Guide books, arranged geographically.
- 709 General histories of art.
 - .2 Biography, in series.
 - .3 General history of architecture.
 - .4 General history of sculpture.
 - .5 General history of painting.
 - .6 General history of industrial art.
 - .7 General history of ornament.
- 710 ANCIENT ART, PERIOD OF.
- 710.9 General histories of ancient art.
- 711 Egypt. (To be subdivided by subject.)
- 712 Assyro-Chaldea.
 - .1 Chaldea.
 - .2 Assyria.
 - .3 Persia.
 - .4 Hittite Mesopotamia.
 - .5 Asia Minor.
- 713 Syria and Phoenicia.
- 714 Aegean and early Mediterranean art.
 - .1 Cyprus.
 - .2 Crete.
 - .3 Mycenae.
- 715 Greece. (To be subdivided by subject.)
- 716 Italy and Rome.
 - .1 Prehistoric and bronze age.
 - .2 Etruria.
 - .3 Rome (the city).
 - .4 Pompeii.
 - .5 The Empire.
 - .6 Architecture.
 - .7 Archaeology.
 - .8 Coins and Gems.
 - .95 Glass.
 - .9 History.
- 720 MEDIAEVAL PERIOD.
- .9 General history of mediaeval period, its culture and civilization.
- 721 Prehistoric and bronze age in Europe. Including early Roman influence in Northern Europe and early Christian influence in Britain.
 - .1 Spain.
 - .2 Germany.
 - .3 Gaul.
 - .4 Britain.
 - .5 Scandinavia.
 - .6 Scandinavia.
 - .7 Russia.

- 722 Byzantine and Saracenic art.
 - .1 Byzantine art.
 - .2 Saracenic art.
 - .3 Persia.
 - .4 Syria.
 - .5 Asia Minor.
 - .6 Constantinople.
 - .7 Cairo and Mohammedan North Africa.
 - .8 Mohammedan Spain.
- 723 Early Christian and Mediaeval Rome.
 - .1 Mediaeval ivories.
 - .2 Mediaeval miniatures (including Byzantine and Irish).
- 724 Mediaeval Architecture.
 - .1 Italy.
 - .2 Germany. (Germany and France together to be put under 724.2.)
 - .3 France.
 - .4 Great Britain.
 - .5 Spain.
 - .6 Scandinavia.
 - .7 Russia.
- 725 Mediaeval arts.
 - .1 Iconography.
 - .2 Sculpture.
 - .3 Industrial and decorative art.
 - .4 Mosaics.
 - .5 Painting.
- 730 RENAISSANCE AND MODERN PERIOD.
 - .9 General history.
 - Including both art and culture histories and works treating of Mediaeval period with the Renaissance and Modern.
 - .92 Biography.
- 731 Renaissance art. General.
 - Excluding Mediaeval period. May be divided by countries.
- 732 Renaissance architecture.
 - .1 Italy.
 - .2 Spain.
 - .3 France.
 - .4 Germany.
 - .5 Great Britain.
- 733 Renaissance sculpture.
 - .092 Biographies—collective.
- 734 Painting. Renaissance and Modern.
 - .1 Italian painting.
 - .192 Biographies.
 - .2 Spanish painting.
 - .3 German, Flemish and Dutch painting.
 - .31 German painting.

.32	Flemish painting.
.33	Dutch painting.
.4	English painting.
.5	American painting.
.6	French painting.
735	Modern etching and engraving.
736	Modern architecture.
737	Modern sculpture.
738	Modern industrial and decorative art.
739	Modern reproductive processes and photography.
740	ORIENTAL ART AND ARCHITECTURE.
.1	Persia.
.2	Central Asia.
.3	India.
.4	China and Japan—collective.
.41	China.
.42	Japan.
750	PRIMITIVE AND SAVAGE DECORATIVE ART. Put with 571, unless treated strictly as art.
.1	American archeology.
.5	Foreign archeology.
760	COINS.

President Morse.—"Miss Bragg's paper is open for discussion. Has Professor Goodyear any remarks to offer?"

Professor William H. Goodyear (Brooklyn Institute Museum).—"I am very much flattered, Mr. President, that something has been done with the system. I have no remarks to offer."

Mr. Robert H. Rockwell, chief taxidermist in the Brooklyn Institute Museum, then read the following paper:

THE LIFE OR LASTING QUALITIES OF A MOUNTED MAMMAL SKIN

The life or lasting qualities of mounted mammal skins seems to be comparatively short when one considers the time and expense involved in their collection and preparation. Existing methods do not overcome such imperfections as the cracking of the eyelids, opening of the seams, and, in some cases, the shrinking of the skin over the indentations. It is discouraging to have to admit that these flaws are prominent in most of the recent taxidermy. From the limited statistics that I have been able to secure, it appears that two-thirds of the large

mounted mammal skins present some defects within a period of twenty years, and in a great many instances they appear much sooner, especially in such animals as the hippopotamus and manatee, which are generally known to fall apart in from three to five years.

I do not claim that these flaws appear in all taxidermy, but the specimen which will last for twenty-five or thirty years without showing at least some of them is the exception rather than the rule.

There are two great difficulties in taxidermy which up to the present time have not been successfully overcome. The first is the placing of a skin on a manikin in such a way that it will not stretch over the hollows, but will remain permanently in the indentations. I have examined the work of acknowledged experts in taxidermy and find that they have not been able to overcome completely this obstacle. Sometimes a skin will remain for a few months or a year as it has been placed on the model, but more often it begins to draw across the hollows, eliminating much of the modelling and detail.

The second difficulty is the preservation of the specimen itself, which is more important than preserving details of outline. If the reasonable duration of a mounted mammal skin is only six, or at the outside twenty-five years, it is unnecessary to discuss this point, but I believe that museum exhibits, especially mammals, should be practically indestructible. Otherwise, what to us is a rare and beautiful group of animals will be to a succeeding generation only a few strips of cracked and crumpled skin, a partly bare manikin, and a few accessories. The restoration of such an exhibit would probably be beyond the reach of human power.

As a remedy for the conditions I have outlined, I would suggest the casting in bronze of rare animals and those bordering upon extinction, with the accessories much as they are made at the present time. The skins could be thoroughly tanned and placed in a separate exhibit close to the case in which the group is shown. The more common species could be cast in plaster and painted to represent the natural color and markings of the skin.

Mr. Roy W. Miner, assistant curator of invertebrate zoölogy in the American Museum of Natural History, presented the following paper:

AN EVAPORATION-PROOF EXHIBITION JAR FOR FLUID PREPARATIONS

Many attempts have been made hitherto to evolve a type of exhibition jar which will be proof against evaporation, but without success. No matter how careful the process of sealing may be, leakage will occasionally occur, and an attempt to re-open the jar to replace the fluid is only accomplished with difficulty and often with breakage. As a result of experiments to remedy this difficulty the writer, in collaboration with Mr. H. Mueller of the Museum preparation staff, has contrived a jar for small specimens which is certainly evaporation-proof. The idea is simple in principle and doubtless has occurred to others, though I have not heard that it has actually been put into practice for fluid preparations. Briefly, it consists in inclosing specimen and preserving fluid in a glass tube of appropriate dimensions, sealed hermetically in the flame of the blowpipe, flattened at one end, and mounted on a suitable base or pedestal. Institutions equipped with the ordinary blast-lamp and bellows of the laboratory will have little difficulty in making these jars, especially if there is available a member of the staff accustomed to bend and adjust glass tubing for chemical apparatus. The method is not a difficult one, the cost is trifling, and the result is permanent. A good example of this type of jar is shown actual size in figure 1. The process is as follows:

1. A piece of glass tubing of the requisite length and diameter is procured. One end is sealed and flattened as shown in figure 2, the other being left open. The flattening is easily accomplished by sealing up the end of the tube, rotating it at the side of the flame, with one hand, while the superfluous knot of glass which forms at the sealing-point is removed by means of a glass rod held in the other hand. When this has been done, the sealed end is quickly withdrawn from the flame and gently but firmly pressed against a horizontal metal or asbestos surface, the tube meanwhile being held vertically. If this is carefully done a clean, flat bottom, upon which the tube can stand, is the result.

2. The specimen, previously mounted on a glass or vulcanite plate (black in the figures), is taken out of its fluid and inserted in the empty tube (fig. 2). The specimen should be so mounted that the distance between it and the end to be sealed should be at least two inches.

3. The open end of the tube is now rotated evenly in the flame, care being taken to keep the specimen as far as possible from the latter

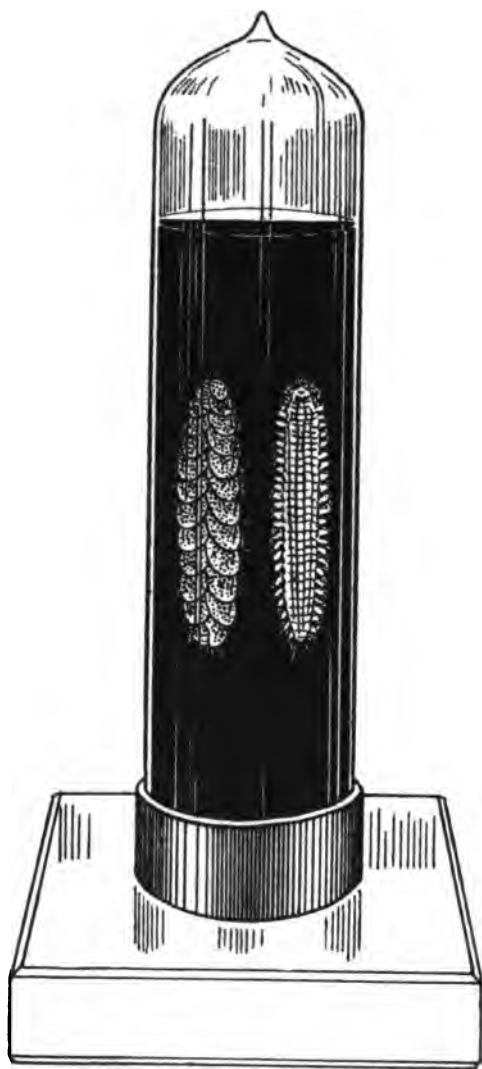


Fig. 1.

to prevent shrivelling.¹ When the end of the tube is sufficiently softened in the heat, another short length is welded on for purposes of handling, and the rotation in the flame is continued for a few seconds.

The tube is then quickly removed from the flame and the ends pulled quickly in opposite directions so that the heated portion is drawn out



Fig. 2.



Fig. 3.



Fig. 4.

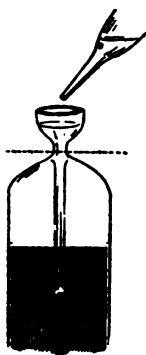


Fig. 5.



Fig. 6.



Fig. 7.

as a narrow tube. This is now cut off four to five inches from the enlarged portion, and the end of the latter molded symmetrically in the flame (fig. 3).

¹ If the tube is large or of thick glass, great care must be exercised as it must remain longer in the heat. A partial protection is afforded by keeping the tube wrapped in asbestos to the top of the mount. Much of the heat is thus absorbed.

4. The smaller tube is now heated near its junction with the larger, and then taken quickly from the flame, the open end inserted in the mouth, and by means of a short steady blow a bulb is formed as in figure 4.

5. The bulb is then cut in half by marking it with a steel knife-edge and breaking it, as shown by the dotted line in figure 4. A funnel is thus formed (fig. 5), through which, when the glass has cooled, the jar is filled with preservative to the top of the specimen mount, a pipette being used for this purpose.

6. The edge of the funnel is now brought into the flame, and a small glass rod welded to its margin to act as a handle for the next step in manipulation.

7. The jar is then held in one hand, the glass rod in the other, while the neck of the funnel is rotated in the heat, and slowly attenuated until cut off by the flame, the opening being gradually closed meanwhile (fig. 6).

8. The jar is now sealed and ready for mounting. This may be done according to taste in a variety of ways. The writer uses a square pedestal of polished glass (see fig. 1). The jar is set in a brass ring, silver plated, with gun-metal finish. A transverse piece of brass is soldered across the bottom of the ring, and at its center a brass pin is soldered. This latter is cemented into a hole drilled in the center of the pedestal. A simple base may be constructed of polished hardwood with a hole sunk in the center to receive the jar.

Numerous variations in details of finish will suggest themselves. The specimens may be mounted in transparent glass and the outside of the jar behind the mount enamelled with any suitable color. The name of the specimen may be painted on an enamelled band around the upper part of the jar. The catalog number may be etched into the glass near the bottom. While there is little distortion of the specimen in jars of circular cross-section when they are of small size, if the curator prefers it is possible to obtain tubes of flattened or oval cross-section.

A successful modification of this jar is made of flattened tubing, and is used in the storage collection for preserving types and rare specimens of small size (e.g., *Peripatus*). The flattened tube permits examination of the specimen with a low power of the microscope while sealed in the tube, and of course evaporation is impossible.

In the discussion following Mr. Miner's paper it was suggested that bottles might be sealed in this way and thus avoid the necessity of forming a bottom. Mr. Miner stated that this is difficult because commercial bottle glass cracks too easily in the flame. Tubes closed at one end could be purchased, but the necessity of having a stock of assorted lengths would offset the slight trouble of forming a bottom. Flattened tubing may be used to decrease distortion.

Mr. Miner has not experimented with tubing more than two inches in diameter, but Mr. Frederick L. Lewton stated that in the National Museum four and six-inch tubes have been sealed in a similar manner and used to preserve official grades of cotton.

Later in the day, Mr. Miner's method of sealing glass tubes was demonstrated to members who visited the shop.

Mr. Roy W. Miner, assistant curator of invertebrate zoölogy in the American Museum of Natural History, presented a second paper, illustrated with lantern slides, as follows:

MARINE INVERTEBRATES IN MUSEUM GROUPS

The department of invertebrate zoology in the American Museum of Natural History has under course of construction a series of habitat groups of invertebrates to illustrate the more typical associations of these animals as they exist at definite localities along the north Atlantic coast. Two of these groups, the "Cold Spring Harbor Mollusc Group" and the "Woods Hole Annulate Group,"¹ have been completed while others are being prepared. Since comparatively few invertebrate groups are on exhibition, and as this series involves several novel features, a brief description of the more recently installed of the two above mentioned and its method of preparation may be of general interest.

A reproduction of the group is shown in figure 1. Like the rest of the projected series its theme centers around one of the great phyla of the animal kingdom—in this case, the Annulates.

¹ The field observations and composition of the "Cold Spring Harbor Group" are largely due to Dr. F. E. Lutz of this Museum. The field-work, composition and effects of the "Woods Hole Annulate Group" are due to the writer. The wax-modelling was done by Messrs. Ignaz Matausch and E. Müller, the glass work by Mr. H. Müller, and the coloring by Messrs. S. Shimotori and Matausch, under the direct supervision of the writer.

The locality chosen for the setting is the Greater Harbor of Woods Hole, Massachusetts. In the upper part of the group, a distant view of the wharves and buildings of the United States Fish Commission is shown on a colored photographic glass transparency six feet in length. In the middle distance, on a similar transparency, is the grass-covered spur of Devil's Foot, a small island at the harbor entrance. In the cove sheltered by the island and its projecting spur, the tides have deposited their load of silt washed from neighboring points to form a muddy bottom.

Below the surface of the water, which is here represented as if in section, the border of an extensive patch of eel-grass growing in the mud is shown to the left of the group and is continued into the transparent background. Here is seen the animal life to which such conditions are favorable. The mud minnow (*Fundulus heteroclitus*) is swimming about, nibbling at the seaweeds, a "jumping" *Pecten* is flopping in the eel-grass, beneath which a green crab (*Carcinides manas*) is hiding. A conch (*Fulgur canaliculatus*) is crawling over the sea bottom anxiously searching for bivalves. Hermit crabs, mud snails (*Nassa obsoleta*), and shrimp are busily fulfilling their duty as the street-cleaning department of the shallow waters, while mud crabs (*Panopeus*) lurk in every crevice.

Finally, below this zone of shallow-water life, there is shown still another world composed of dwellers beneath the sea bottom itself. These are the marine worms. Burrowing in the mud below the eel-grass, tunneling in the sandier mud of the open spaces, or in the still sandier stretches where the bottom slopes up toward the pebble-strewn sea margin, is this underworld of creatures, strange in form and habits, often magnificently clad in armor of iridescent coloring, adorned with breathing plumes and grotesque with tentacles, bristles, and spines. The chimneys of their houses project above the sea bottom here and there, while our license as group-makers permits us to expose their burrows and section them to show the inhabitants therein.

To the left, among the eel-grass roots, a cavity is represented as arbitrarily hollowed out, while swimming out of their burrows are shown the clam worm (*Nereis virens*), the opal worm (*Arabella opalina*), the beak thrower (*Rhynchobolus dibranchiatus*), the fringed worm (*Cirratulus grandis*), and the sand worm (*Phascolosoma gouldii*). Occupying the central portion of the sectioned bottom where the mud is shown as somewhat mixed with sand, and beyond the limits of the eel-grass, are the U-shaped tubes of the parchment worm (*Chaetop-*

terus variopedatus) (fig. 2). One of these is shown in section with its curious occupant, the strangest of all the worms, while another is represented as newly enlarged by its rapidly growing owner. To the right of this a second arbitrary hollow in the muddy sand exposes a quantity of acorn "worms" (*Balanoglossus kowalevskii*), those lowly chordate off-shoots of our ancestral stock, while further to the right, where the sand is purer and the tide sweeps through more swiftly, are the deeply penetrating tubes of the plumed worm (*Diopatra cupraea*) protectively concealed by shell and weed fragments cemented around their projecting chimneys. One of these too is shown in section, disclosing the row of blood-red gill plumes along its side. Here may also be seen the trumpet worm (*Pectinaria belgica*), digging into the sand with its golden combs, and dragging down with itself its trumpet-shaped armor of carefully joined quartz mosaic by which its delicate body is protected.

The finished group is installed in the Darwin Hall of the Museum. The back of the case with its transparent background is placed in front of and against the window lighting the annulate alcove, through which therefore the group is illuminated for the most part by the daylight filtering through the transparencies. This gives a peculiarly realistic effect. In the upper transparencies the illusion of distance is aided by placing them so that the rear glass bearing the distant view is separated appreciably from the front transparency bearing the middle distance. In the transparencies placed below the water line the water effect is produced by placing five sheets of glass one behind the other, on each of which a portion of the vanishing detail is painted. No ripples or other visible motions of the water are painted on the vertical glass in front of the submarine view, as has sometimes been done in museums, since they do not exist in nature below the water surface.

The labeling will be arranged in panels below the group, in such a manner that each panel will describe the animals immediately above it, and for a further and more detailed study of the various types of worms the reader will be referred by the label to the enlarged models of the same worms in the synoptic cases of the annulate alcove. For example the label beneath the *Diopatra* tubes will refer the reader to the enlarged model of *Diopatra* illustrated in figure 3, while on the other hand the label with the enlarged model will refer to the window group for the natural size and life habits of the worm. The illumination of the group, as has been said, is largely furnished by the daylight from

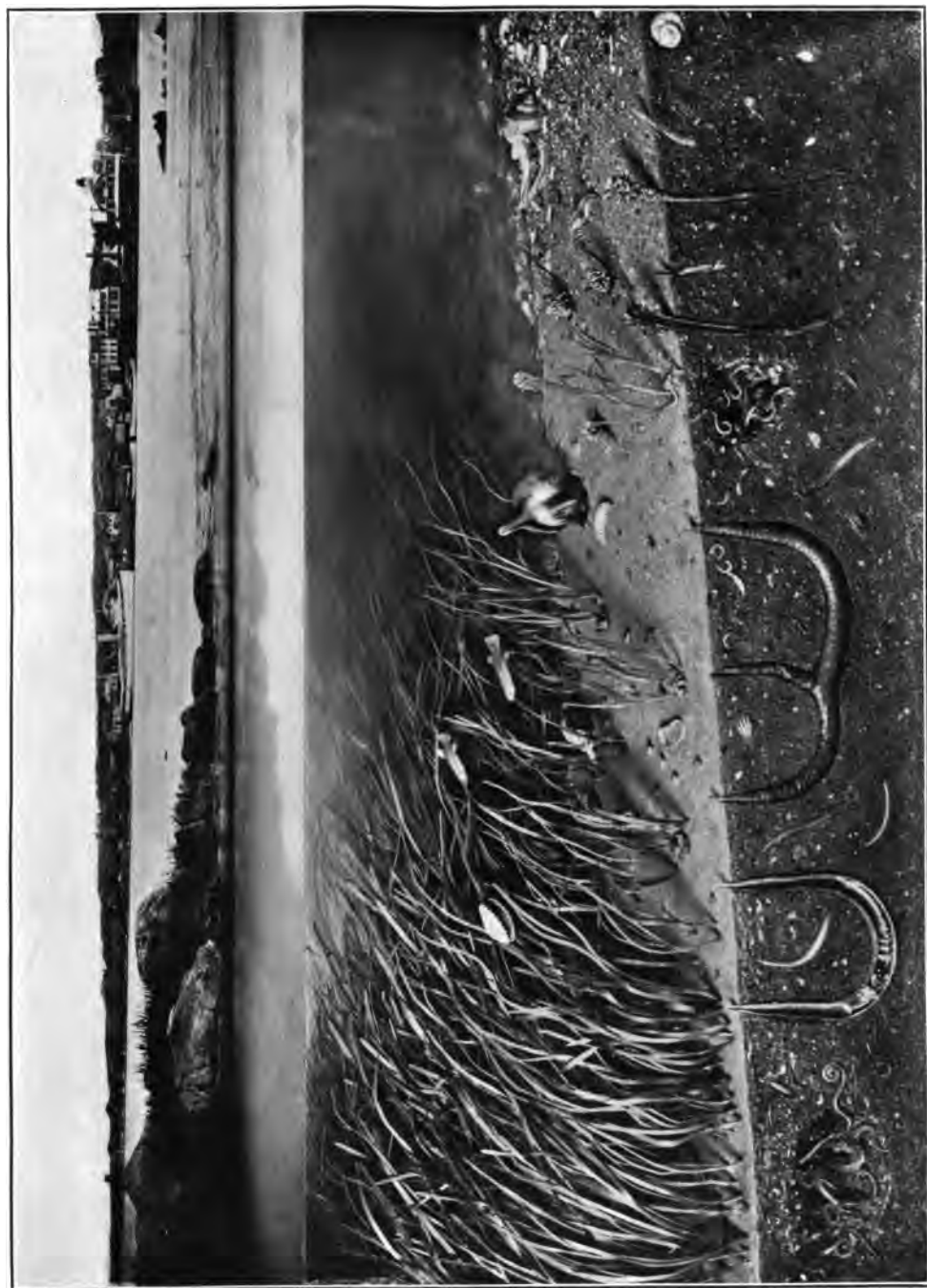


FIGURE 1. THE "WOODS HOLE ANNULATE GROUP" IN THE AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK CITY.



FIGURE 2. A DETAIL OF THE ANNULATE GROUP. MODEL OF THE PARCHMENT WORM (*CHÆTOPTERUS VARIOPEDATUS*) IN ITS U-SHAPED TUBE.





FIGURE 4. THE ANNULATE GROUP IN COURSE OF CONSTRUCTION. A, THE MINIATURE SKETCH MODEL; B, FRAME FOR THE FULL-SIZE GROUP; C, THE WAX DUMMIES.

the window. The worm burrows however, being in the shadow, are illuminated artificially by the light from concealed tungsten lamps, thrown on them from in front and below, by means of reflectors.

The general procedure in constructing this group was as follows. The locality was first selected. In this case it was Woods Hole, Massachusetts. Through the courtesy of the United States Fish Commission we were granted the facilities of their laboratory, which we made our headquarters. Studies from nature were made in the spot selected. The color sketches of the sea bottom and of the horizontal views through the water were made possible by utilizing, in connection with a water-glass, a specially constructed adjustable mirror of plate glass, which could be placed on the sea bottom in shallow water and adjusted to any angle. The living animals were studied both in their natural surroundings and in aquaria in the laboratory, and anatomical and color sketches and photographs were made to record the observations. Meanwhile a miniature sketch model was constructed on the scale of three inches to the foot to arrange composition and work out problems of perspective and artistic effect. This was also done in the field. The remainder of the work was done in the Museum. First a suitable frame was constructed for the full-size group. Then the sea bottom and its section was modelled and life-size wax dummies were constructed of the various animals and set in place in the group to determine questions of spacing, etc. Sketch model, framework, and wax dummies are all shown in the photograph (fig. 4). The final models were made of wax, glass, and celluloid (e.g., see fig. 2) and set in place after all the accessories were finished. For the snails and crabs the actual shells were used, the soft portions being modelled, and the whole colored from life.

The progressive features of this installation may be summarized as follows:

1. The group is largely a collection of models of soft-bodied invertebrates of natural size, form, and color, and represented in their natural environment.
2. An actual locality on our coast where the animals are abundant was chosen and photographed for the setting.
3. An enlarged transparent photograph on glass, in natural colors, is used for a background, the size of the enlargement being in itself an unusual feature.
4. The illusion of distance is aided by a second transparency placed in front of that forming the background, and having upon it the colored photograph of the nearer portions of the view.

5. The group is placed before a window (utilizing space often wasted) in such a manner that transmitted daylight is made the chief illuminating agent.

6. The under-water effect is produced by painting portions of the background composition on successive sheets of glass, and by the effect of daylight passing through the entire series.

7. Finally, this group and the others in preparation are intended to form a comprehensive series covering the chief phyla of the animal kingdom, and to emphasize as the underlying idea that the true unit in animal life is the ecological association and not the isolated individual.

In response to a question Mr. Miner stated that the cost of the annelid group, including the time of all who worked on it, was approximately two thousand six hundred dollars.

The Association afterwards adjourned for luncheon as guests of the American Museum. The afternoon was spent inspecting the exhibition rooms and laboratories. In the gem room Dr. George F. Kunz, honorary curator of gems in the American Museum of Natural History, gave a brief account of the Tiffany gem collection, and then read by title the following paper:

THE PROJECTED MUSEUM OF PEACEFUL ARTS

In view of the great interest manifested in many parts of the United States and England, as well as in Canada, and other of the British colonies, in the proposed centennial celebration of peace among the English speaking peoples, there seems to be an assurance that at many points along our northern border bridges, buildings, monuments, and woods will be built, to remain as enduring evidences of the celebration. As chairman of the plan and scope committee charged with the consideration of the local celebration of this occasion, and realizing the great benefits secured during the Hudson-Fulton Celebration by the eminently successful coöperation of the various local museums and the park commission, entailing an outlay of less than thirty thousand dollars; realizing also the special needs of this, the greatest commercial and industrial city of the continent, for additional museums of various kinds, it has been my privilege to suggest the founding of a group of institutions to be known as "The Museums of the Peaceful Arts."

Perhaps as many as fifteen to twenty such museums could be founded, modeled on the lines of such successful institutions as the Conservatoire des Arts et Metiers of Paris, the Deutsches Museum in Munich, the Kunstgewerbe Museums of Carlsruhe, Berlin, and Vienna, and many others of a similar kind.

This would, of course, entail a very considerable outlay; let us suppose that the cost of such a group of museums should eventually amount to twenty, or even thirty million dollars. This expense could be borne in equal shares by the state, the city, and the committee. It is quite possible that public-spirited citizens would donate single buildings in connection with our present museums and our universities, especially as many of the museums here projected do not now exist in the United States.

Let us put down the annual running expenses of these proposed institutions at from two to three million dollars. This amounts to less than fifty cents for each inhabitant of our great city; but what will this investment mean for New York? It will furnish a thorough and effective education to our industrial workers, as well as to those who employ such workers in the many industries here represented. Moreover, facilities could be afforded to school children to assemble in the halls of the museums on one or two days in each year, under the care of competent expositors who would explain the various exhibits. In this way the children would be able to see what has actually been accomplished in the various departments of art and industry, the exhibits constituting object lessons of priceless value in illustration of the principles and facts recorded in text books.

What if the expense of these foundations should equal that of one or two of our modern warships? We are to build one now at fifteen million dollars. The time may come when the bankers of the world, guided by the principle that war destroys the values upon which their investments are based and paralyzes the commerce and industry which provides the interest on these investments, will refuse to sell bonds for the purpose of furnishing money to carry on war, and in this case, as the *nervus belli* would be lacking, the expensive luxury of war would be rendered impossible. Today, a great and unceasing war is being waged between nation and nation, though not with soldiers of warships; the war of industry and commerce, a war which, however, creates values instead of destroying them. One of the most acute phases of this industrial and commercial struggle is observable at the present time in the fierce competition for the trade of South America,

the Orient, and Africa. To whom will the palm of victory in this contest be awarded? Will the United States have a due share, or will the nations of Europe hold this field, more especially Germany, who has done and is doing everything to increase her industrial efficiency? It is true that America is coming to the fore, but she risks losing a good part of the fruits of her activities because the international commercial needs are not well studied or understood in this country. England in past generations has made similar mistakes; she has refused to see the rising clouds that menaced her supremacy, and her present labor troubles and the general restlessness among her workingmen are largely an outcome of this.

A German industrial undertaking will employ thirty—yes, even a hundred—trained chemists or other investigators if it is deemed necessary for success. A result of this policy is that Germany purchases four million dollars worth of coal tar from England, works it up in a great variety of ways, and is then able to market the product for seventy million. Again, she buys English wools and cottons; dyes them, weaves them, and then sells them to England and her colonies. This exemplifies what may be done with by-products, many of which were formerly regarded as of comparatively little value. Indeed, even now, nine-tenths of the coal gases and the coal tar distillations, of which Germany makes such extensive use, are wasted.

If England had given more attention to the industrial education of her people and to the utilization of many by-products which can be made an unsuspected source of wealth for a nation, so many of her workers would not be condemned to chronic lack of employment and under-nourishment. The progress in this direction might, indeed, have been at the expense of Germany, but that country, with its wonderful skill in opening up new sources of industrial profit, would only have been spurred on to renewed efforts and would have found means to more than make up for any loss sustained by English competition.

Why can we not take such lessons to heart? Here in the city of New York we are permitting 2,500,000 tons of food and human waste to go to the garbage heaps, to the sewers, and to pollute the rivers, at once spoiling a valuable source of food supply, and bringing disease to the inhabitants of the city, while if this material could be collected and spread over the barren fields of Long Island and New Jersey, these tracts might be turned into garden spots of the world. Furthermore, these same chemical products, after being turned into food and again

into waste, could be utilized anew, thus constituting a kind of endless chain of usefulness.

In this connection we must bear in mind that our great agricultural product is now secured in most cases at the expense of the natural powers of the soil, and that we are using up the capital represented by these powers. As they become exhausted, the cost of securing and applying the necessary fertilizers will greatly raise the price of food for consumers. If, on the other hand, such fertilizing agents are not used, the product will correspondingly diminish and the price of food products will rise because of lack of an adequate supply for our rapidly increasing population.

This question of the preservation of waste materials has been very practically handled by the Russian government, which imposes an export tax upon every material that leaves an ash behind, if burned; this would apply to all food stuffs. Only alcohol is non-taxable, because here there is no ash residuum.

In museums of art and natural history this city is gathering material equal to any collected elsewhere in modern times; it is, however, in its agriculture, its mines, and its industries that the great wealth of this nation is proclaimed, and for the proper exposition of these there should be special museums devoted to the following branches:

Electricity.	Historic Records.
Steam.	Health and Hygiene.
Astronomy and Navigation.	Textiles.
Safety Appliances.	Ceramics and Clays.
Aviation.	Architecture.
Mechanical Arts.	Scenic Embellishment.
Agriculture.	Gardening.
Mining.	Roads and Road Building Materials.
Labor.	Commerce.
Efficiency.	

One central library building could contain books and periodicals giving full information concerning the subjects of these various museums, and in connection with them there could be a double stadium, one suitable for summer pastimes and sports and another adapted for those appropriate to the winter season. We have already a well organized safety museum, but without a building; the money is here for a nautical museum and the Chamber of Commerce is projecting a

commercial museum. But in other directions everything remains to be done; the original materials of our great inventors are being lost, or are being absorbed by foreign institutions.

In regard to time, there is no time like the present. We have still with us Edison, Thompson, Houston, Tesla, one of the Wrights, Alexander Graham Bell, Marconi, and many others whose inventions have revolutionized the mode of living of the entire world, and their original, experimental work should be preserved forever.

We have still with us many of the generals of industry, through whose leadership some of the greatest incorporations have been formed, the men who see visions, who believe in the possibility of higher industrial education. What may we not safely trust to see created eight years from to-day, if adequate encouragement is given, and if the materials already secured are properly grouped together, so that they illustrate one another and suggest new and greater developments?

The greatest industrial museum in the world, the Deutsches Museum of Munich erected in 1904, was suggested by a letter of Dr. Oskar von Müller. The work done here recently by representatives of this museum illustrates what valuable material can be assembled by competent investigators. These German delegates took back with them drawings and plans of our most noteworthy engineering triumphs, such as the new aqueduct and the large canal; models of our skyscrapers and subways, of our public library, and much other valuable material, thus supplementing the European material already collected, or to be collected and rounding out the exhibition of the history of invention and of industrial and engineering progress. The German government, the Kingdom of Bavaria, the city of Munich and a private association unite in supporting this museum, and the combination and interaction of these various agencies are most important in rendering the foundation many-sided and vital, freeing it from too bureaucratic a control which might paralyze its energies. No better instance of the advantages of such a combined control can be found than is afforded by the American Museum of Natural History, where the municipal government and private citizens work together in perfect harmony for the purpose of attaining the highest ends and render the institution both scientifically adequate and at the same time practically helpful to our people.

The importance of industrial education as well as of that relating to agriculture and mining will be more fully realized when we study the reports giving the annual returns of the main sources of natural wealth

of the United States. While in the year 1909, the principal crops, cereals, hay and forage, cotton, tobacco, and potatoes, were worth \$4,422,867,466 and the value of metallic and non-metallic products was \$1,886,772,843, the 6,615,046 wage earners engaged in manufacturing added by their labor \$8,520,261,000 to the \$12,141,791,000 worth of raw or partly manufactured materials they used. The actual value of the product reached the enormous sum of \$20,672,052,000. Thus of an annual addition of about \$15,000,000,000 to the national wealth, the industrial workers may be credited with 57 per cent. Their skill and success varied much from state to state; while the average was \$1290, South Carolina showed the lowest figure, \$642, and Arizona the highest, \$2586; this exceptionally high rate being due to the large profits from the special industry of copper smelting in this state. When we consider the great variety of manufactures produced in the Empire State, its citizens have every reason to be proud of the skill of its workmen; an average of \$1506 added value for each one of the 1,003,961 wage earners in a total production of \$3,369,490,000—is certainly a remarkable testimony to the success with which New York's resources have been developed, and shows us what wonderful results can be expected when greater encouragement and above all better opportunities for instruction are provided for our workers.

With the progress of time there can be no doubt that an ever-increasing proportion of our population will be devoted to industrial work. This is distinctly the lesson taught by the development of the older countries. In France, for instance, more than 12½ per cent of the population is engaged in manufacturing work of one kind or another, while in the United States only 7½ per cent of the population is so employed.

In one of these museums the fact that water-flows can be regulated by proper reforestation could be illustrated so as to be generally understood, and it could also be shown that when utilized for this purpose waste lands are made to produce valuable results for the nation. If the waste lands within one hundred miles of New York were forested we would not be subject to the bi-yearly scare we at present experience, that the New York water supply is going to be insufficient to supply all needs. The interest yield on the land would mean an increase in thirty years of three times the land value if land were forested.

There would be great mutual advantage in the group of industrial museums proposed, of benefit not only to the public, but also to the management of the museums themselves. Many economies could be

practiced which would both reduce the expenses of all the museums and increase their efficiency, as, for instance, in the matter of attendants and policing. The establishment of a central power plant could be gradually extended on the unit system as the various museums were completed, and could be located in a separate structure.

One large assembly hall might do for all the museums, and a half dozen smaller halls would mean that each museum could use them for one or more afternoons or evenings each week for lectures or other purposes.

Advantage would be gained in standardization of necessities purchased for the proper maintenance of the museums, such as coal, towels brooms, and a thousand and one other things. These articles could be purchased in bulk and kept in a central storehouse, and the Museums Association would reap the benefit of this kind of buying. One purchasing agent would probably be able to do the buying for all the museums.

There could be a double system of control: first, through the presidents of all of the museums, and secondly, through a board composed of the directors and managers of the different institutions. In this way all the legitimate needs of these foundations would find adequate expression, while there would be a check upon any hasty or ill-considered action, or upon any measures unduly favoring any one of the museums at the expense of another.

The various universities in the city of New York could look upon this group of museums as a kind of auxiliary educational station, not interfering with their activities in any way, but valuable for the collections which are of so much importance to the various branches of study and to the professions taught by them.

In other words, this group would be a great encyclopedic set of museums in the interests of higher education for our public schools, and for the entire public. There are among the incorporators the most important men in the industries, bankers, heads of institutions, physicians, etc., as well as others.

With regard to local support for such a museum, every far-seeing merchant is always ready to encourage any institution that will bring visitors to the city. If the sympathy of the merchants is enlisted, the project will surely receive the sympathy of the bankers, as it has already received the sympathy of the student, the professor, and the intelligent leisure class, and it will certainly be approved of by the great army of visitors. If it should be decided to establish these

buildings along the Hudson River front, an excellent location for them would be from Ninety-sixth to One Hundred and Third Streets.

There is no reason why the tracks of the Hudson River Railroad could not only be depressed, or better still, be run through separate tunnels under the deep rocky part of Riverside Drive.

I cannot now help regretting the serious injury that is done to the United States by the fact that its greatest city is not its capital. We have a great metropolitan development, yet all the national bureaus and collections are in a city small in size, easily accessible to but a small part of our population, and rarely visited except upon legislative business—or on a wedding trip. Were all the national collections and buildings gathered together in the great metropolis, New York would be a greater city and the usefulness of the valuable collections now in Washington would be enormously increased. For only a portion of each year does Washington enjoy a period of activity, while the manifold activities of New York as an international station, a commercial center, a center of amusements and fashion continue without interruption throughout the whole year.

New York suffers in this respect from comparison with London, Paris, Berlin, Vienna and many of the greatest cities of Europe, where the metropolis is the national and provincial capital as well. This concentration makes for greater industrial and scientific museum possibilities.

At five o'clock tea was served in the trustees' room by the ladies of the Museum. During the afternoon, some of the members visited the Museum of the Arts of Decoration at Cooper Union, where they were received by the custodian, Miss Eleanor G. Hewitt.

At 8.15 p.m. the American Museum tendered the Association a complimentary lecture illustrated by motion pictures, on "Wild Life of the Far East" by Cherry Kearton.

SESSION OF WEDNESDAY, JUNE 5

Morning

The Association assembled at 10 a.m. at the Metropolitan Museum of Art, and President Morse presented Mr. Robert W. de Forest, secretary of the Metropolitan Museum, who made the address of welcome.

Mr. de Forest.—"It is my very pleasant duty to welcome this Association to our Metropolitan Museum of Art. I read yesterday afternoon in the *Evening Post* an account of your first day and of your program. Perhaps some of you read it too; I confess that after reading it I was left in some doubt as to whether this was a serious meeting for study and education or whether it was more or less of a junket. I recall going on last summer to the National Conference of Charities and Corrections in Boston in company with a very charming woman delegate. She said to me 'It is so delightful to have the Conference of Charities held in Boston.' I said 'Why?' She said, 'There is the Boston Museum of Fine Arts, and the Arnold Arboretum, and the Boston Common, and a baseball game.' 'Well,' said I 'what has that to do with the Conference of Charities?' 'Oh,' she said 'it is the Conference of Charities that gives us the opportunity to come to Boston at this time.'

"It may possibly be that this meeting has given you the opportunity to come to New York at this time, but I should be the last one to intimate that there should not be some element of play connected with meetings as serious as this one purposes to be. I suggest that while there are no ball games, as far as I know, there are museums at Coney Island. But I do not mean to speak entirely jocularly.

"This is the first meeting of the Association that I have attended personally, but I have noted with great interest its development and growth and I realize the utility and great inspiration it must be, even if it were merely the getting together of people who are interested seriously in problems of this kind. It is a far greater gain, however, when such serious topics as are on the program for this session are brought for consideration.

"I know there has been some discussion as to whether there is a degree of class relationship between natural history museums and art museums, such as should make it appropriate for both to belong to the same association. Perhaps I am telling tales out of school to say that it is not an uncommon question for many of us to ask ourselves, as it must be for you who come from natural history museums and find little of interest in the subjects germane to art museums. But there are and must be elements in common with all museums, and, if I may be pardoned for speaking perhaps a little off the program, let me call attention to two or three of them.

"In my observation of museum development, which is far closer as applied to art than to natural history museums, there are two

very marked lines of progress here in America. I do not mean that they are confined to America, but they are particularly marked in this country. One is the emphasis placed upon the educational function of the museum; and the other is the emphasis placed on proper arrangement or installation.

"It is not long since the great public first realized the relation of museums to education. As I remember, the early museums of Europe were based almost invariably upon some princely collection, which was rather a group of curios than of specimens of serious educational value, whether it were in the field of natural history or along the line of art. If I recall aright, the first two princely museums were started with a specimen of a unicorn, an animal, I believe, which has no real existence outside the arms of Great Britain. It is from collections of curios that many of our museums also had their inception.

"It is not at all strange that the popular idea of a museum should still be analogous to what the older museums illustrated. Indeed, it is only a few years since this museum in which we are meeting had occasion to defend itself on the educational side. The authorities of the State of New York sought to impose a tax on a legacy given to the Museum on the ground that it was not an educational institution. Strangely enough, the lower court held that the Metropolitan Museum of Art was not an educational institution, therefore a legacy to it was taxable. Fortunately, the higher court did not take that view, but it serves to illustrate the lack of appreciation, even among judges and lawyers in our own time, of the relation of the museum to education.

"It is elementary to all of us that one of the functions of our American museums is not merely to amuse; it is to educate, and this is a direction in which all of our museums, both natural history and art, are moving in common. It is interesting to note the increasing part they are taking in our university and school systems; and correlatively, as justifying such an impulse, it is interesting to note how the earlier museums, whether of natural history or art, usually grew out of the needs of our universities and colleges. If you look back over the museums in our own country, you will find that the majority developed out of universities. Now that we are turning to the public school system and getting closer to the educational duties of the city, we are simply harking back to the original conception in this country of a museum.

"I am not entirely unfamiliar with what is going on in Europe along

these lines, but I do not know of any such recognition of this educational function as is exemplified in our natural history museums here in New York by the appointment of a special instructor, and by the emphasis which the Museum of Fine Arts in Boston is laying on the duties of its docent; or the emphasis we are placing on the work of our instructor at the Metropolitan Museum.

"These movements indicate the similar trend of art and natural history toward education. Their functions, their duties, and their opportunities are alike and form a common ground on which all museums in this country can meet to exchange experiences and to progress together.

"There is another ground in common, and that is the increasing emphasis which is being given to proper installation. This also seems elementary to most of us. How long has it seemed so? There is not a single person to whom I am speaking who cannot from his or her own experience go straight to a museum, here or abroad, that does not recognize the necessity of proper installation.

"The movement toward proper installation is illustrated better, probably, abroad than in this country; nevertheless it is illustrated right here in New York. Take the recent installations in the American Museum of Natural History. How admirable they are! They address themselves to the average person, the layman who goes through our museums and is ignorant on these subjects.

"I would say the same about the recent installation at the Museum of Fine Arts in Boston. Think of the arrangement of Japanese art there. Compare it with what it was and with what might easily be found now in many European museums. For attraction and educational purpose it marks not one but many steps in advance. In the Metropolitan Museum of Art I could wish we had more today to illustrate our ideal of installation. What we have has come in the last few years. I venture to call attention to our Egyptian department as an example of what proper installation can do. And in the same line, while I was waiting here, Mr. Kent pointed out to me two cases which had been arranged, one to show tasteful installation, and one to show an installation of the past, without regard to taste or special arrangement. There could not be a better illustration than the contrast between them.

"It is not merely in arrangement that we are making these advances. It is in everything relating to management and installation. Take the matter of labeling. We have been exceedingly fortunate here

at the Metropolitan Museum in having with us our present acting director, Mr. Kent. We are largely indebted to him for the many advances which we have made in labeling and printing. As illustrating what can be done on these lines, I would like you to notice as you go through the museum some of our labeling and some of our printing. Even when applied to such a comparatively ephemeral subject as the notices of these meetings which I saw in the elevator as I came down here.

"Turning to the European museums; as far as installation is concerned, we have nothing here that compares with some of their larger museums—with the Landis Museum of Zurich or the National Museum at Munich. Now, here are ways of progress possible to us all; and ways in which we in America may be able to set the pace because the administration of our American museums is not connected with governmental functions, and is therefore, more flexible, readier to accept change, and to advance boldly.

"These are but two among the subjects which we have in common, and whatever may be the differences in the needs of various kinds of museums, there are so many ways in which we are both seeking to advance that there will always be a profit in these meetings, even if the baseball game is not thrown in and you have not the attractions of Coney Island."

President Morse.—"I am sure that we are very grateful to Mr. de Forest for his appreciation of the reasons why museums of art and those related to science should work together. There is a unity of interest and the details we work with very largely are the plans and arrangement of cases and labels. The art museums are adopting our natural history museum shelf supports and certain methods of mounting, and we are getting from them the artistic features of proper display and agreeable colors, and methods of rendering museums attractive to the public. It is from the public that we get our support, we must not overlook that, and it is the public that we must interest and try to benefit. If the public can become impressed with the idea that a town without museums and public libraries is a town of low culture, just as you conclude the same when you enter a home and see no books on the shelves or pictures on the walls, then we have some ground to work on.

"In England they have a tax rate of which a certain percentage is used for the support of the museums. In Massachusetts we have conditions where only three per cent of the population is out of reach

of a public library, and all of it will be covered eventually. We must get the people together and interested, for after all, despite our desire for scientific work, we must appeal first to the educational desire on the part of the public, for through it we get our appropriations. We cannot do without appropriations, for we are the poorest paid class of workers in the country, except the poor country parson. Our pay can be, and will be increased if we impress the public with the value of the work we are doing in the education of the people."

The next paper, by Miss Caroline L. Ransom, assistant curator in the department of Egyptian art, Metropolitan Museum of Art, was as follows:

THE VALUE OF PHOTOGRAPHS AND TRANSPARENCIES AS ADJUNCTS TO MUSEUM EXHIBITS

Museum authorities are dependent in forming a collection of antiquities on the chances of the market and of excavation. They may have very good fortune in one direction and find serious lacunae unavoidable in another. Further, one of the major arts, architecture, can never be adequately represented within the limited space of a museum interior. I affirm this despite the report current this past winter that Mr. Morgan had bought the island of Philae at the first Egyptian Cataract and was bringing its temples to the Metropolitan Museum! If, then, the attempt be made, as in our Egyptian rooms upstairs, to illustrate the successive stages of a national civilization and art, supplementary photographic illustrations render the picture of a given period far more nearly complete than it could be without them. Consider the early period in Egypt when the land was emerging from barbarism. We possess a considerable knowledge of that formative time derived from contemporary graves. But merely to show in our exhibition cases pots, maces, slate palettes, and other small objects found in these graves, which is all we can show at present in the original, would be to tell but half the tale. Here, as in other rooms of the Egyptian section, transparencies at the windows supplement the original objects. In the three frames of transparencies within the first Egyptian room we are able to exhibit the methods of burial of more than five hundred years, and in passing from the primitive grave, only a hole dug in the sand, on to the larger brick-lined and brick-roofed tombs of the end of the period one has traced the emergence of the instinct and the ability to construct buildings. These

primitive tombs cannot be called architecture in any high sense of the term, but they are the beginnings of the development which was to culminate in the mighty temples of Egypt and are essential to the story of the history of Egyptian art as we are attempting to tell it in our rooms. Again in our sixth and seventh rooms it would be a pity to miss from the impressions to be gained there of the art of the Egyptian Empire, the views and plan of the palace of Amenhotep III at Thebes. I might thus point out in every room the way in which the transparencies at the windows and the photographic enlargements on the walls and pedestals supplement that which it has been possible to obtain in the way of original objects.

The use of photographic illustrations sometimes obviates the necessity of placing casts in the same galleries with originals. We have but two casts in all our ten rooms and expect to eliminate those two in time. The photographic illustration is an obvious substitute, the cast is not always so easily recognized as such by the untrained observer and the presence of casts among originals, particularly if skillfully colored, is likely to lead to confusion in the minds of many people as to what is ancient and what is modern in the collection. Architectural models, however, are not open to this objection, for they are not in the size of the originals and could never be mistaken for originals.

But perhaps even more important than their function in supplementing the original material in museums is the explanatory value of photographic illustrations in relation to the main exhibit. There may be museum authorities who think it unwise to attempt to embrace in their exhibition rooms anything more than can be duly represented in original objects. But no one can dispute the fact that it is our business to make the original objects as attractive and intelligible to the public as possible. The Egyptian department of this museum has found glass positives and photographs an indispensable help to this end. In many rooms it is possible to turn from the objects in the cases to pictures showing the conditions under which they were found. For instance about one-half of our fourth room is given to the contents of an unplundered tomb of 2000 B.C. which was excavated by the Museum's Egyptian expedition in 1907. At the window all the stages in the clearing of the tomb are shown, first the top of the tomb shaft as it appears at the level of the desert surface, then the first chamber of the tomb as yet uncleared, next that chamber freed of debris and filled with numerous pottery jars; the visitor then

has to look but across the room to see these same jars occupying a wall-case. Further views show the second chamber before and after clearing, the opening of the coffin, revealing for the first time to the modern world the necklaces, bracelets, ceremonial whip, and other funerary equipment of the deceased Snebtès, all of which may be seen in near-by cases.

The Egyptian collection has been built up in three ways: by gift, by purchase, and by excavations. Most valuable of all is the material obtained through the excavations conducted by our own Metropolitan Museum's expedition to Egypt, because we have the full scientific records of the conditions under which each object was found. The photographic illustrations—both transparencies and prints—serve to keep before the public the nature and the value of this work as the people turn from the material results of the excavations in the way of actual antiquities to the pictures of these same objects as they were found.

But even for the purchases and gifts about whose provenance nothing is known we are able to do something. When the actual object cannot be shown in position in Egypt, it is often possible to exhibit related material under the conditions of finding. Then it is often desirable to show a photograph of a complete object to make an original fragment intelligible. On loan in our collection at present is a wooden panel from a chair found by Mr. Theodore M. Davis in one of the royal tombs at Thebes. Even though the label states the fact that the panel is from a chair, it would be impossible for the visitor unfamiliar with Egyptian furniture to visualize the object of which this mere fragment remains. But we were able to place on the pedestal a photograph of a complete chair from another royal tomb with two such panels in position.

The use of photographs occasionally has a bearing on the much-vexed question of how far to restore objects. The principle we try to follow in the Egyptian department is to restore accessories when by so doing the object gains in aesthetic value, but not to restore essential parts. In the latter case a photograph of a similar complete object may serve to explain our fragmentary one and relieve us of the necessity of restoring where restoration would seem a sacrilege. Let me illustrate this. In the sixth Egyptian room is a red quartzite portrait head of that remarkable religious revolutionist and visionary, King Amenhotep IV. The head is incomplete, having lost the head-

dress and whole back part, as well as the eyes, which were inset. We have restored the headdress in plaster, tinting it the general tone of the stone, but we should not dream of renewing the eyes. The headdress, however, is a mere accessory to the realistic and subtly modeled face, and by supplying it this masterpiece of portraiture regains much of its original effect. On the other hand in our fifth room may be seen absolutely unrestored a colossal lion's head of limestone which lacks the greater part of the muzzle. We cannot bring ourselves to fill out this essential part of the powerful animal's head with modern work, but we have placed on the pedestal a photograph of a similar colossal head of a lion found practically uninjured in the German excavations at Abusir which will aid the visitor to complete in imagination this impressive work.

Finally, let me say a few words about the popular appeal of photographic illustrations. Undoubtedly this appeal is greater in the case of transparencies, which are more vivid and give the illusion of reality better than the flat print, but what I have to say applies to some degree also to large photographs. These illustrations relieve the monotony of the rooms, they attract attention and hold it often when the original objects in cases fail to do so, but interest once awakened is transferred to the all-important material in the cases and thus the pictures help in promoting the education of the public. I have a distinct memory of the way, during the months when the final preparation to open the Egyptian rooms was in progress, even our museum workmen when passing through the rooms used often to stop and look at the transparencies and comment on them. Undoubtedly the pictures of excavations in progress have exerted the strongest attraction. And this is an entirely legitimate interest to arouse and satisfy. Few people who have not had a classical education or traveled widely have any definite notions as to the importance of excavations in Mediterranean lands or the way in which they are conducted. We have thought it well to introduce many pictures which show the native workmen employed on our museum expedition as they carry baskets of sand and transport heavy stones slung to poles, and as they otherwise employ the ancient methods of the Nile Valley.

How far the use of transparencies is desirable in other departments of an art museum than the Egyptian is more than I would presume to judge. The idea is not a new one in museums of natural history, but, as far as I know, has never before been tried on so extensive a

scale as here. We feel that the experiment with us has been a wholly successful one and I shall be very glad if the brief statement of our aims and results offers any suggestions to other museum officers present.

The discussion of Miss Ransom's paper proceeded as follows:

Mr. Frank B. Gay (Wadsworth Atheneum, Hartford, Conn.).—"Do I understand that you would advise the small country museum, which cannot have original pedestals, to give up casts and put the money into transparencies and photographs? If so, does not the public lose a little in the sense of form? What is the cost of your transparencies? Still another question; in the case of classical antiquities, Greek and Roman rather than Egyptian, would you say that it is better to have transparencies and photographs rather than the casts that you have? And, when you get to Renaissance art, would you have photographs and transparencies rather than modern electros?"

Miss Ransom.—"For museums that cannot afford what we have here, if it is a question between transparencies and photographic prints or casts, I should prefer the casts if they are well chosen and well arranged. The thing I object to is the mixing of casts and original objects in one gallery, rather than the use of casts themselves, for casts serve various purposes. As to the cost: for the actual transparencies it varies with their size. I think we paid seventy-five cents for the smallest size, five by seven inches; for the eleven by fourteen inches we paid two dollars; and for the largest size, fourteen by seventeen inches, three dollars. The frames are expensive and I cannot give you an idea of their cost. They are made here in large quantities, but each large frame, I should say, including the woodwork and the three plates of glass which we use (prismatic glass to distribute the light evenly, and two plain sheets of glass, one on each side of the transparency) would cost in the neighborhood of one hundred twenty-five dollars."

Miss Ethel A. Pennell, library assistant in charge of photographs, Metropolitan Museum of Art, next read the following paper:

THE CARE AND CLASSIFICATION OF PHOTOGRAPHS
AT THE METROPOLITAN MUSEUM OF ART

When I was asked to read a paper on the care and classification of photographs, I said I should have to confine the subject to the methods employed in this Museum Library, as there has been no time or opportunity to investigate other systems, excepting a few in and near Boston. What I can give you here this morning will be little more than an outline of what we have done and of our reasons for doing it in this way. Those of you who are particularly interested in photograph collections will perhaps come to the photograph room in the library this afternoon, where we can show you very concretely how our methods of classifying and of cataloging serve our purpose. Then, if you wish still more definite information, you will find it in this Museum publication called "Classification Systems used in the Library," which is for sale at the catalog desks at the Fifth Avenue and Park entrance doors.

The photograph collection was started six years ago, when a representative of the Museum went to Europe and bought in person about eleven thousand five hundred unmounted photographs, largely of the various schools of painting. Since then the collection has been increased through purchases by a curator or friend of the Museum, through gifts from other friends, and more recently through purchases by mail from various European and American dealers. This latter method, while usually satisfactory in buying photographs of paintings, has the disadvantage that unless one knows the composition of the picture one can not tell what size of print will best represent it, and it occasionally happens that a larger size has to be ordered afterwards. In the case of photographs of architecture and sculpture, it is rarely safe to order by mail from a catalog. So much depends on the point of view from which the building or statue is seen, that it is necessary to consult at least an *illustrated* catalog or sample prints, before ordering.

The photographs, as soon as they are received, are first entered in accession books. These we can best show you in the photograph room. We prefer books to any card system of accessioning because we can thus keep together all large purchases or gifts, and save a good deal of time and labor by the use of ditto marks; and as each group of accessions bears its own date, we can reckon a month's or a year's purchases and gifts very quickly. The accession number is written

on the back of each photograph, whence it is transferred by the mounter to the mount. Afterward it is placed also on the back of the main catalog card and on the face of the shelf list card.

About twice a year we send the unmounted photographs to the Rose Bindery in Boston, where they are mounted on dark mounts in two shades of grey that harmonize with the tones of the prints and are not easily soiled. The photographer's label is removed from the photograph, and to take its place a white paper label is pasted on the back of each mount in the upper right hand corner. We have three types of labels, one for architecture, another for sculpture and painting, and a third for the minor arts; and each label is ruled and headed so that it will read like the catalog card, as nearly as possible.

For stacking the photographs, specially designed cases have been made, which you will best appreciate by seeing them. Each division of the case, that is, a row of fifteen compartments, has its own door that opens down to the horizontal, and serves as a shelf on which to draw out and consult the photographs. These compartments allow the photographs to stand upright, partitioned into groups of forty-five or fifty that can easily be taken out with one hand. This, as you can see, is a much more convenient method of stacking than in deep, heavily laden drawers, or in cupboards with movable partitions that either stick or slide too readily, or in piles on shelves. Our cases accomodate the three smaller sizes of mounts: eleven by fourteen, fourteen by eighteen, and eighteen by twenty-two inches. For larger sizes we have cases with shallow sliding shelves, which also should be seen to be appreciated. The upright stacking of the first type of case allows us to arrange the photographs like books on a shelf, that is, with the class numbers running from left to right, and easily seen in the upper right corner of the label.

The classification of the photographs has been worked out to suit the need of the varied public whom we serve. Our opportunity to learn this need was given us during the two years after the first photographs were purchased and before systematic work was begun on classifying and cataloging, the two years being occupied with waiting for photographs to arrive, accessioning them, having them mounted, deciding on the kind of cases, etc. During this time over fifteen thousand photographs had been accumulated. This of course meant a handicap of about three years' work on the cataloging, which we may never be able to overcome; but it also meant that we had ample opportunity to learn how to arrange the photographs so as to make

them easily accessible. Our visitors were connoisseurs who wished to freshen their memories on the work of the old masters; teachers with their pupils who wished to see a number of different artists or different buildings at one time and arrange them in groups to illustrate their points; collectors of paintings who wished to find arguments for or against the authenticity of some dealer's attribution for a saleable painting; young artists, whom we know as "copyists," who were chiefly interested in modern French painting; and various craftsmen and designers who wished to see all the furniture and woodwork we had, or all the jewelry, or all the tapestries. In these six years, there have been, to my knowledge, perhaps two or three requests for paintings of the Florentine or Sienese School, or for the entire art of the Greeks or Romans. These facts were sufficient argument for the classification of paintings alphabetically by artists, and not by schools, and for the minor arts by crafts, not by country groups that included everything from architecture to lace. So our photographs were divided into nine groups and numbered accordingly: 100 Architecture (including general views); 200 Sculpture; 300 Painting and Drawing; 400 Work in Mineral Stuffs; 500 Work in Metals; 600 Work in Wood; 700 Work in Ivory, Leather, Paper, etc.; 800 Textiles and Embroideries; 900 Lace.

Then ancient or pagan art was separated from modern or Christian, and each group was divided by continents and countries, the same figures representing a country throughout the groups. Thus, 172 is Christian *architecture* in Italy, 272 is Christian *sculpture* in Italy, and 372 is Christian *painting* in Italy. Architecture is then subdivided by cities in the different countries, and again by the type of building in the city; as ecclesiastical, educational, recreational, municipal, and domestic. Painting and sculpture are arranged alphabetically by the artists in the different countries, and again divided by groups according to subjects; as religious, mythological and allegorical, portraits, landscape, and genre, with slight variations in the case of sculpture.

The minor arts require a further primary division and very different subdivision. As, 500 (metal work) is divided first into the different metals, and silver is the sixth division; then Italian silversmiths' work is numbered 567.2, the 7 and 2 representing Christian art in Italy as in architecture, sculpture, and painting. Further subdivision of the minor arts is made into centuries or other periods, and then into the kinds of objects according to use.

Further enlightenment on this subject of classification can be got at your pleasure, my attempt being here chiefly to show you the *reasons* for our present arrangement. It has proved satisfactory and adequate for our purposes, and is usually pronounced simple and comprehensive, and this has been our chief aim.

The methods of cataloging have been worked out to supplement the classification, and again to serve the public according to their needs. First of all, careful research work is done on every photograph to verify and to amplify the photographer's label, as transferred to the accession book. We take very little for granted. The time spent on research work is nearly twice that spent on printing the cards and labels, though this latter is no small item of the day's work. The cards are printed on the Hammond typewriter. At least three cards are made for every photograph, besides the shelf-list card. That is, for painting and sculpture we make a main artist card, a gallery card, and at least one subject card, not to mention the cross references from names of artists to whom the painting "was formerly" or "is also" attributed. For architecture, there is the main card under the name of the city and building, the style card according as the building is Romanesque, Gothic, Renaissance, etc., and at least one card for some bit of ornament or other detail. By these subject cards we can theoretically group together, for instance, all paintings of the Madonna and Child, or all Gothic tombs, or all examples of any style of architecture or ornament, and we are therefore able to defend ourselves against the surprise and almost scorn of laymen who think all the Madonnas should be stacked together, regardless of the artists. Also, the gallery cards bring together all paintings or other works of art in a gallery. Before we had progressed far with the cataloging, two people came in one day and asked for a St. Christopher by some Italian artist in a gallery in either Rome or Florence. The only way we could get at it, then, was to go through the thousands of Italian painting photographs that we had, and we spent the better part of an afternoon hunting for it. Then the people never came back to see it after all. Cases like this, though not so trying, are by no means rare, and we frequently wish that our catalog with its gallery cards were complete. As a rule, however, we are able to meet the requests of the public without difficulty. We have cataloged less than ten thousand out of our thirty-five thousand photographs, but by progressing at our present rate we may nearly finish the collection, as it now stands, in five or six years. Then we may hope that the cata-

logging will keep pace with each year's accessions. Of course many of the catalog cards will never be consulted, and many photographs will be asked for by some subject that is not on our list. But on the whole we think our catalog provides a fair number of points of contact with our photographs, and thus serves its purpose as a supplement to the classification system.

Much might be said as to the form and wording of our catalog cards, but it would be perhaps too technical to interest the majority of you. The publication to which I have referred contains full notes on the subject, as well as sample cards for every form that we use.

In closing, I want to say that while I may be prejudiced in favor of photograph collections, in general I believe they are much more important in a museum than is usually conceded. Their value, particularly in the educational work of a museum, can not be overestimated. The material they offer is invaluable as illustrating and supplementing books, and is often more accessible, especially as so much of the writings of connoisseurs is published in periodicals which are often inadequately indexed. If the photographs are properly cataloged according to the latest and best authorities, there is almost no limit to their usefulness. In addition, they are comparatively inexpensive, can be stored compactly in a small space, and their quality is far superior to that of plates in books for illustrating details.

Miss Pennell's paper closed the discussion of installation, and the rest of the morning was devoted to administrative questions, Mr. Paul M. Rea, director of the Charleston Museum, Charleston, S. C. opening with the following paper:

THE FUNCTIONS OF MUSEUMS

As we come from our institutions of art or history or science, institutions of various sizes and situated in various parts of the country, and visit the great museums of New York, we are sure to be impressed with the magnitude of their work, the amount of money spent and the results obtained and contemplated. To those of us who come from smaller museums this experience is both stimulating and overwhelming, but if we bear clearly in mind that the fundamental principles of museum administration differ only in degree in large and small

communities, we shall go home with renewed enthusiasm and added knowledge and suggestions with which to carry on our own work.

A survey of the museums of the country, however, leaves a very strong impression that the proportion of these which are growing in size and usefulness is far smaller than it should be. It is the purpose of this paper to consider the scope and opportunities of these museums irrespective of size, for the measure of success is the ratio of results to resources.

The scope of a museum is properly determined by the nature of its financial support, viz., whether private; endowed; school, college, university, or society; municipal or national. For the purpose of this discussion the nature of the material, whether of art, history, science, etc., is largely immaterial.

The scope of a private museum may be whatever the wishes of the owner dictate. There can be no other obligation. In the same way the use of endowment funds is usually specified by the donor.

Schools, colleges, universities, and societies are essentially more complicated individuals. When they maintain museums it should be the object of the authorities to conserve the collections and so to administer them as to serve most efficiently the purposes of the supporting institution. Where these purposes are chiefly as an adjunct of class instruction it is generally considered at present that carefully selected collections of limited extent are more useful than extensive general collections. For this reason many institutions neglect museums of considerable size which grew up in a time when different ideas of teaching prevailed or which were created by the enthusiastic devotion of a professor. Under these circumstances there seem to be but two proper courses of procedure, viz.—to develop new uses for these museums which will warrant their proper support, or to transfer the greater part of the collections to institutions which can preserve and utilize them. Unfortunately, the usual course is one of neglect, which results in the destruction or deterioration of material that is sometimes of great value. When this material is unique or of unusual value, its neglect violates an obligation to art or history or science, as the case may be, which institutions of learning above all others ought to respect.

Municipal museums derive their support primarily from tax funds and as such owe their obligation to the people who pay the taxes. These are truly popular institutions in the sense that they exist for the people. National museums are of a similar nature. Until very

recent times the municipal museum, as we conceive it today, did not exist in this country. It is significant that the great expansion of museums has come with the realization of an obligation to the people—an obligation which has been met most conspicuously hitherto by coöperation with the public schools. It has been said at every meeting of this Association, as far back as I can remember, that school work is the one topic that always arouses enthusiastic discussion. I believe heartily in this line of work, but I believe there are other fields in which equal success awaits us.

Industrial and economic exhibits are attracting increasing attention. Movements for bird and tree protection have been inspired and guided by museums. Tuberculosis and child welfare exhibits are suggestive in the extreme. Museums exist for the people. Museums are ideal agents of intelligent publicity, appealing to the eye in times of recreation, when the mind is open to impressions. They reach people of all classes through the children. Shall we not make them, then, a clearing house of municipal progress, an expression point of community activity? Publicity of the right sort is essential to the success of popular movements. Why should not the resources of our museums be turned to this work as occasion arises, and must we not believe that such coöperation will result in more generous support for all museum activities?

In large communities the various phases of museum work are divided among several museums; in small communities one general museum must cope with all alone. When such a museum is in a state of stagnation, is it not reasonable to suppose that it is because it is neglecting to take an active part in the life of the community?

As an indication that these principles are capable of successful practical application a specific instance may be cited.

Eight years ago the College of Charleston Museum was overcrowded, under-lighted, many times larger than necessary for class use as a reference collection, yet without resources for active work either for the public or for students. The only funds available were an appropriation of \$250 made by City Council. There was no staff, but the professor of biology might devote some of his time to curatorial work in addition to the full work of a department of instruction.

Reorganization began by submitting to City Council a comparison between the status of the Museum and a factory which was being swept out once a week but was never run and consequently paid no dividends. One thousand dollars was asked to run the institution

for one year, with the understanding that if it did not pay dividends in public instruction and recreation it would be discontinued. That thousand dollars was used to give lectures and print bulletins to acquaint the people with the nature and possibilities of museum work. The next appropriation was \$1500. The following year City Council gave a building worth \$30,000, with \$7500 for remodelling and \$2500 for maintenance. Now the appropriation for maintenance is \$4000.

The commercial bodies and other organizations were told that the new Museum was a public servant and that when they were ready to undertake any work for the good of the community the Museum stood ready to coöperate. One result has been that the Advertising Club raised \$2500 toward the expense of installing the scientific collections in the new building and beginning industrial exhibits. The Museum coöperated with the Park Board in investigating the condition of the city's shade trees and in arousing public interest in their improvement. It was the headquarters of the tuberculosis exhibit. It has undertaken to maintain for the City Art Commission a municipal catalog of works of art in Charleston. It has done much to educate the community to a greater interest in, and appreciation of wild bird life, with the result that when an island on which a colony of snowy herons breeds had been purchased by popular subscription to avert its destruction, the Museum was asked to take title to the property as the natural agent of the community. In short, every effort is being made to associate each department of the Museum with some line of community activity.

Meanwhile, investigations into the history of the Museum traced its origin back to March, 1773, a quarter of a century before any of our other American museums began, and recovered the original prospectus of its founders, a document remarkable for the breadth of plan and high purpose with which it endowed the infant museum. We have told the story of the nurture and development of the Museum under the auspices successively of the Library Society, the Literary and Philosophical Society, the Medical College, and the College of Charleston, and how the community rallied to its support in times of stress through popular subscriptions and state and city appropriations. Today the people of Charleston recognize in the Museum a precious inheritance and a community enterprise pregnant with good works for the betterment of the city and for science. No longer a department of the College, it is known as the Charleston Museum. It is maintained by the City, and developed by the people through member-

ships and popular subscriptions. It is free to the public on every week day.

The College has not lost but rather gained, for the Museum not only provides it with classrooms and laboratories, but with all the facilities of a large and active museum. The Medical College is also affiliated with the Museum. The public schools avail themselves increasingly of its coöperation. Thus, all the scientific interests of the city are effectively served by one central institution without reduplication of equipment.

I have recited the story of the rejuvenation of our oldest museum to demonstrate the vital relationship that museums may maintain with the people, and of the readiness of the people to rally to the support of museums that are willing to serve them.

Through the Directory of Museums, the Association has disclosed the existence of a large number of potentially useful collections now stagnating for lack of a vital connection with the people.

What better work can the Association of Museums undertake than to stimulate and guide a revivification of these on broader and more effective lines?

Mr. Henry R. Howland (Buffalo Society of Natural Sciences).—"The remark which Mr. Rea made upon coöperating with other civic agencies in the city of Charleston is a thought I would like to emphasize by expressing the desirability that there should be coördination between the various institutions in a city, be it large or small, that are working for educational purposes or are centers of educational activity.

"In the city of Buffalo there are five great centers of educational activity: the Buffalo Society of Natural Sciences, which directly correlates its work with the educational work of the city, and, besides other activities, provides a series of lectures which cover seven months of the year; the Historical Society, with its fine collection and its activities; the Albright Gallery; the Buffalo Public Library; and the Grovesnor Library of Reference. They were all aiming toward the same end, but there was danger of wasting energy if they did not correlate their work. A movement was started whereby those institutions joined together and appointed an advisory board made up of two representatives and the executive officer of each institution, to the end that there may be no duplication of work. It is worthy of consideration by any city which has several institutions working with a common purpose."

Mr. Cheshire Lowton Boone, director of the department of art and handiwork in the public schools of Montclair, N. J., then read the following paper:

WHY IS A MUSEUM?

According to a noted museum authority, "a museum is an institution for the preservation of those objects which best illustrate the phenomena of nature and the works of man, and the utilization of these for the increase of knowledge and for the culture and enlightenment of the people." It was also stated by the same writer that "the museum should be more than a mere collection of specimens. It should be a *house of ideas*, full of instructive labels illustrated by well selected specimens. It should be adapted to the needs of the mechanic, laborer and salesman, and in order to perform its functions it must contribute to the advancement of learning through the increase as well as the diffusion of knowledge." This is a fairly comprehensive program but, potentially at least, every museum should be a comprehensive institution. By its very nature and situation in the social or economic order, it must not only engage in but often lead in works of education and investigation. It automatically becomes a kind of clearing house and bureau of information in special lines.

If one can accept the above statements as a definition of the museum's chief purpose, then a number of foundations will need the services of the efficiency engineer. Frankly, these institutions are not inviting, they do not really take leadership in affairs of their concern, nor do they contribute a great deal directly to the mass of general culture. They do not perform that best of all services which encourages the development of the museum idea on a small scale in the lesser communities. They have a mausoleum-like aspect which meets one at every turn. They are distinctly impersonal, concerned altogether with art, not the artist; with productions, not the producer; and with the public in a collective way, rather than with large numbers of individuals. The casual visitor and the student leave such institutions with much the same ambitions and ideals which they brought in; they have not been inspired. Undoubtedly the large institution tends to become a bit impersonal because efficient organization on any considerable scale is forced to ignore individuals, but is it not quite desirable to make the entrance to advancement in learning as wide as possible, and to accomplish this by methods of disseminating

information which will encourage and stimulate to further study? The museum is a center of knowledge which sometimes fails to give up the information it holds, because no one comes and takes it by force. It would seem to be altogether to the advantage of any museum to have the largest possible growing patronage among real users. It would be such a patronage as would grow in time to include practically every cultured member of the community and would, moreover, furnish the best kind of aggressive advertising among all classes. This advertising the museum must do.

It has always been an item of interest to note that the general aloofness and conscious dignity of institutions are in inverse ratio to their size and importance. The small institutions are prone to be stiffnecked in their efforts to keep the public in its place. Not long since, I visited an institution in an eastern city which possessed many interesting and valuable items of artistic merit, but I had the impression that my chief pleasure should come from knowing that these things were safely housed and were the valued possessions of that institution. I should not be otherwise concerned. I was inclined to recall the regulations given in the British museum manual for 1759: "Students and curious persons desirous of visiting the museum are instructed to apply in writing to the principal librarian, stating their names, conditions and places of abode, also the day and hour when they wish to be admitted. If the librarian considers the applicants suitable persons, he will allow the porter to give them tickets when they come the second time to ask for them, but not more than ten tickets will ever be given out for each time of admission and visitors will be allowed to remain only one hour in each department." Modern regulations do not use just those words but they often mean the same thing. Now there is no institution in the small town or city, unless it is the public school, which could do as much for general culture as the museum. According to its kind, it has the rare opportunity to stimulate public interest, guide public opinion, and maintain proper scientific, civic, or aesthetic standards. If an art museum, it is my belief that it should take a lead in civic improvement wherever art is a factor, simply by showing in every possible way, exhibitions, lectures, demonstrations, that the beautiful city or town is decidedly worth having. But not one museum in fifty has any concern for art other than the few accredited forms which can be labelled and cataloged by schools. It is quite significant that the public library is a

much more efficient institution in an educational way and, with the public school, leaves the museum a rather dignified but bad third. Now the library, though a coördinate institution, has practically usurped some of the functions of the museum for reasons which are plain. The library of course has at hand information in compact form, in books, and this is the natural source for the bulk of general knowledge. It soon found, however, that mere reading would not hold its patrons and, with a wisdom seemingly unknown to the museum, it reached out toward the people for some vital relationship of permanency. The librarian not only became a real teacher in the best sense, but he made the library a bureau of information and a social center which is rapidly gaining influence. It keeps in closest possible touch with public affairs, holds exhibitions, coöperates with the public school, church, and business organizations.

On the other hand, practically all those connected with museum work are specialists on the keen scent for every stray item and fact which will swell the total of accurate information. This painstaking research is of course a necessity, but it inevitably leads to a singleness of purpose, to a detached point of view which puts the results out of scale in general culture. It crowds out or minimizes larger motives which might profit the general public. Moreover, the expert and trained investigator have more than they can possibly accomplish in their chosen field without the added duties of instructing the public or exploiting the resources of the institution. In fact the expert, even in education, is seldom a teacher at heart—or he would not become an expert. His mind works the other way, and his whole energy expends itself in absorbing and classifying knowledge, making deductions therefrom, and is not vitally interested in diffusing it. In other words, the traditional museum organization is not adequate for modern needs. No provision is made for translating the phenomena and treasures of art, science, and industry into common language or encouraging the study of such things.

But this whole discussion simmers down to one quite ordinary fact, applicable at times to the school and library as well. There is a partial, one-sided conception of the character of the museum as a public institution. It is and must always be public, and not only open to all regardless of the source of its endowment or income, but must actively and frankly place itself at the service of the public without waiting to be asked.

THE MUSEUM AS A PUBLIC INSTITUTION

It was stated some five years ago by a well known authority, that the museums of the country would have for the period just passed some twenty-five million dollars to spend for extensions and researches. I presume it was spent. And the very fact that this immense sum was available is evidence that far-sighted men and women believed in the good the museum could do for people, not specialists. Yet how many foundations have frankly mapped out a campaign for civic or national betterment and education, working toward a higher and truer belief. Even in the glare of many recent propaganda toward coöperation with the school and community, I surmise that a lordly share of the twenty-five million went straight to art and science, and that the user of museums received comparatively little.

Now the mere collection and systematic study of things of nature and the doings of people is an occupation leading nowhere, profiting no one, and obviously ending in a cultural cul-de-sac, unless the student uses his research to illuminate some race problem, the aforementioned "culture and enlightenment of the people." I grant you the delight in personal vocations, because I have this in common with other men. But the most enthusiastic interest in science or art or literature fizzles out in dreaming unless there are ideals back of the interest. The advancement of science or art as a justification for the maintenance of museums must, it seems to me, imply the advancement of culture, of social richness and adjustment. In other words, those vast stores of reference material called museums must not only be indexed, classified, and studied, but exploited, and their significance laid bare for the benefit of generations now and later. To this end, the museum of whatever kind must, it appears, get into sympathy with the people, who are the ones to finally digest the results of expert study and perhaps lift themselves a peg intellectually. The artistic production, for instance, achieves permanency and merit ultimately through public approval and this approval develops through a sustained guidance on the part of critical authority, which can, if it will, elucidate or explain the work of art. This authority, vested in the museum, can classify the accumulations of time, explain their significance, and help to build a sound popular judgment. Hence the museum should seek the most effective method of securing such a relation with the public as suggested in the opening paragraph, one of real confidence between authority and layman, whether student or

not. The public is not even likely to ask for information until it knows that such information is worth having.

There is one other aspect to this question of the public institution, whether tax supported or not. The public school, which perfects the framework of culture and training, finds it most difficult to deal precisely with many subjects for lack of illustrative material which the museum possesses. More and more pressure is being applied to the specialized sources with excellent results. In fact, and somewhat against its will, the museum is being slowly but surely elevated to a position of trust as guide and adviser to the public school, library, and other civic bodies. A museum here and there has agreed to come half way, and in several instances the needs of the public school have been particularly noted and considered in plans for extending the influence of the museum.

However, I would not have you deduce a pessimistic opinion of the museum. Far from it. It is pursuing, if slowly, a logical development. It is gradually responding to public pressure and demands for real inspiration and suggestion. Anyone who has perused the last volume of the *American Art Annual* will be aware of the interest in this phase. In many places, especially under the influence of large institutions, richly illustrated courses of lectures are given with unique material which only the museum can possess. Galleries are more and more at the disposal of students and teachers and, especially in scientific subjects, special collections are available. (All these efforts are promising and highly commendable, but they are not in proper ratio to public needs nor to the museum's obligation as a public organization.) Also it needs more teachers and a high class press agent.

THE MUSEUM AS AN ADVERTISER

Any relation of this sort with the general public comes only as the result of patient effort. It will always be necessary to do more than merely show treasures with brief descriptions, lecture about them, and publish catalogs. It will be necessary to advertise, to advertise as an institution which has a variety of valuable information to be placed where it can be used to advantage. The museum must explain and exploit the scope of its work, gather about it by ties of mutual interest special groups of artisans and craftsmen by collating material for their use. It should, by publication, place authoritative and

critical descriptions of typical collections in the hands of all who can use them, and these descriptions ought to be compiled specifically for the teacher, lecturer, and craftsman as well as for the sightseer. The museum should make a direct appeal to every group of students of importance, and make it worth their while to come. It may well keep in touch with the particular problems of the designer and decorator and meet their needs. Artisans, craftsmen, writers, and teachers of the arts—all that large body of irregular students to whom systematized information would be invaluable—do not form a compact body. They must gather material for their crafts from many sources, often unexpected. I venture to say that every large city contains a surprising amount of choice material touching the arts and sciences which is practically unknown, though potentially a public possession. Even those actively engaged in research do not always know the resources of public institutions, which occasionally own unique but irrelevant collections. It is my contention that just as soon as the museum finds a group of workers to be assisted it should gather the information of special interest wherever owned, place it in usable form, and exploit it among those interested. The museum should act in a wider capacity than that of ordinary custodian. It must advertise in a personal way and prove its efficiency as an instructor and advisor.

(I know of three cities of moderate size here in the east, two of which are the proud possessors of art museums, and the third soon will be. All these places are saturated with discussion of city planning and civic improvement. They have money to spend and have already given much for the purpose. But, as far as I could find, in no visible way have the accredited art institutions contributed one morsel of suggestion or help toward the solution of this art problem.) They are content to remain mere exponents of the last of all arts to gain public appreciation, while the people are keen about their city, their homes, and their taxes. If someone would show what the city beautiful means, why art is necessary, the taxes will adjust themselves; the common people can begin an art education with streets and parks and public buildings more easily than with Rembrandt.

It has been proposed time and again in museum discussion and in print that the majority of visitors seek little beyond entertainment, that they come only to be amused and thrilled with strange or valuable things, and to admire prodigies of skill. All of which is strictly true as far as I know, just as it is true of children. The average layman is curious, he admires difficult technique and skill of the

spectacular kind, taking racial, clannish pride in the accomplishment of patently difficult tasks. But underneath he is also intellectually conscientious, as any one can prove by a crowd of sightseers, which seems determined to learn something even at the price of unbelievable weariness. It may not take the form of conscious desire for self improvement, but there is in almost every individual, the latent wish to know more and know better. This is the tendency which the museum can develop by consistent advertising and skillful administration. One of the best illustrations I can give of an educational campaign comes from the business world where one always finds effort directed in the straightest lines. In order to make his wares attractive to the buyer, the manufacturer of photographic goods proposed to teach his patrons much about the craft, to show them its inherent value and charm, and to put it on the simplest possible basis. He deposed photography from its scientific pedestal and it became a habit. One now goes to the store, invests in a comfortably small parcel and a book of instructions which says "press here," and that might be the end of it. But the systematic work of the advertiser has borne better fruit. Photography has almost reached the dignity of an art. Thousands of people have come to consider questions of design, composition, and color; they have acquired a better attitude toward painting and sculpture. And all because they began with something they could understand. In similar fashion, though perhaps along conservative lines, the museum will have to educate its patrons by opening the way to scientific and aesthetic enjoyment. It is a mere question of psychology, of careful and oft repeated suggestion. The business man creates a patronage by reaching every individual, sooner or later, who can use his wares. The museum does not because it already has the money. But is it money the museum needs? Probably not for what it is doing. Judged on lines of public efficiency the average institution would have the hardest kind of work to account for its income, no matter how small. Its work is not constructive or instructive; it is passively judicial. And the most significant fact in support of this statement is the reluctance of the public to finance museum work in the smaller cities and towns. To the average community a museum is simply held to be physical evidence of civic dignity and does not stand in the popular mind as one source of aggressive teaching. I believe sincerely that the museum should be as closely identified with general education as the library and the school or college. It could then present satisfactory claims for unlimited support, and those claims would be honored.

WHAT THE MUSEUM CAN DO

With your permission I will now propose certain definite results and ideals which the art museum, since I am especially interested in that, can try to realize. Primarily I am concerned with results, not ways and means.

Exhibits. In touching this subject I feel the treacherous character of the ground; exhibits are your specialty. But there are some qualities of the exhibit about which we should not quarrel.

1. As to arrangement and content. Almost any sort of collection which can get past the director and trustees is interesting temporarily, but does it create any intellectual excitement? It would seem axiomatic that those objects which are presented for public view should tell a connected story. Attention should be concentrated upon a particular school, technique, or art ideal, and, for the sake of good design as well as success with the public, even among objects of a kind, some one or more gems should be the focus about which the whole exhibit centers. One does not particularly enjoy wading through gallery after gallery, picking up here and there the few choice examples of a kind or a school to try to patch together a connected story. It is my belief that every visit to the museum should result in impressions which stick. Hence, the exhibits must have cumulative force. Every one should exemplify some ideal of color, tone, composition, or interpretation which is clear-cut. The recent German exhibition in America was of this type. Throughout, one found evidence of an uncanny sense of pattern underneath a rich, brutal color, even in the service of morbid, oftentimes degenerate, themes. Even to the layman it was a distinct group of pictures, and consistent. An exhibit such as this may not please or satisfy, but it puts its message across the footlights just the same. And this is exactly the thing most exhibits do not accomplish because they do not represent any one idea—an epoch or movement in art history, an historical sequence, or an ideal.

There is another point in this connection. The exhibit influence is furthered immeasurably when the pictures or sculpture or artifacts are supplemented by adequate, illuminating, written or spoken description, and by this I mean a description not so much of the pictures as of the time and conditions of which they are a reflection. You are, of course, familiar with those admirable essays of Taine which paint in no ordinary way the growth of art in the Netherlands, Greece, and Italy. In the first paper on art in the Netherlands, the stolid

frank Dutch character and homely customs in persistent struggle to conquer an uninviting land provide a background for Dutch art which is unique. It is the kind of explanation which really tells one how Dutch art grew. Consider what a stimulating combination such criticism would make with a choice group of illustration?

Perhaps you have already surmised that I would have the museums collectively, according to their facilities, publish authoritative but inspiring monographs of literary merit. Catalogs and technical pamphlets have their appropriate uses, but we have very little art history of either the fine or decorative arts which the layman will read, and there is a history yet to be written based on peoples, not on pictures; a history which will be read widely. Even our ablest critics speak of art usually as a process and they have to use technical terms and phrasing for the purpose, a kind of talk which does not carry far. Therefore the highest authority we have, the institution which owns and cares for our art, which guarantees its authenticity and which presumably knows what there is to know about it, should put the information in forms which all people can use.

2. The art museum should welcome art in whatever guise it may appear. For the purpose of argument I see no reason why illustrations and plans of garden arrangements and landscape architecture are not legitimate material. Somehow we have gathered the impression that the choicest accomplishments of many of the old masters are not to be found in pictures and statuary, but lie sleeping in beautiful old gardens, parks, and palaces, or buried in the forgotten history of pageants and festivals.

I should like to know too why the museum, and above all others the small one, feels compelled to devote itself principally to the arts of painting and sculpture rather than the minor decorative arts of design. From the layman's standpoint, would not the reverse be more logical? Critical judgment in aesthetic matters the public can never acquire until it has learned to believe that beauty is, in the main, a simple question of color, proportion, and pattern, qualities which are equally applicable to ceramics, furniture, and pictures. Decorative art deals much with commonplace, familiar things. Every housewife struggles in a blind way to beautify her home, and most people have by inheritance or other circumstance, gathered convictions as to architecture, civic beauty, and the printed page. Now these hazy and too often distorted aesthetic ideals, no matter how inadequate they may be, are the very, the only foundation upon which public

taste can arise, if at all. It seems to me apparent that the only sound procedure in the attempt to develop an appreciative public, is to emphasize by teaching, as well as collecting widely of the minor arts, and develop from that teaching a *belief in art*. It is a well-known and accepted psychological principle that one learns and grows intellectually by thinking in terms which are familiar, and few save technical students ever accumulate enough material to think in aesthetic terms at all. The layman's aesthetic training comprises a minimum of drawing and craftwork in the public schools, sporadic reading in the current magazine and newspaper, and a visit now and then to the current academy or lesser shows. Far too many apparently cultured people obtain their aesthetic standards from the same place whence come their clothes and literature—the department store. Is this meagre, happy-go-lucky contact with art sufficient to convince a man that Botticelli is a master, and that the municipality should spend large sums for the embellishment of public buildings? The far-sighted museum will plan its propaganda in such a way as to secure the widest possible public use of its facilities, emphasizing the more fundamental forms of artistic expression and, in a parallel effort, aim to show such selective, concentrated exhibits as will by their power and beauty of arrangement, gradually focus attention on the finer things. And the whole scheme should be as well advertised as an opera. To me this entire question of making art an integral element in our culture, presents all the characteristics of an educational campaign.

3. Probably the greatest service the museum can perform is to bring inspiration and suggestion to those communities which have no museum and perhaps do not appreciate the possibilities of one. Every institution which elects to gather and preserve fine things does it avowedly for the benefit of generations to come and for all people. And it has no choice but to give out from its rich stores in direct proportion to the catholicity and scope of its collections. There is urgent need at the present time in the smaller communities and in many cities for a stimulant which will first awaken the communities to the charm of the arts as a kind of cultural leaven, and secondly will show ways and means for establishing small museum centers. It would perhaps be feasible, under proper safeguards, to loan small exhibits, arranged in series to cover stated periods or art movements; and to accompany these by the best kind of discussion by skilled lecturers. The scheme should include exhibits of museum plans for

small buildings, information about lighting, methods of arranging exhibit material, storage, library, and reference material—those many details of museum planning and management about which even the architect knows little. I do not know of many sources for information of this kind and the trustees who have to start a museum are usually at the mercy of ignorance. Established institutions ought to disseminate ideals about administration and planning which will help communities to start without serious mistakes.

THE DEMAND FOR CLASSIFIED INFORMATION

Among students, lecturers, teachers, and workers in the arts generally, there is of course a constant demand for classified information, for which the library is usually the fountain-head. Now the museum, along with its material possessions, has usually included books and magazines, properly indexed and dealing with the various phases of art expression. But since the museum's index is composed in the main of its own material, the student's hunt for specific information may lead him to half a dozen institutions, whereas a museum of any pretensions should index every available reference and indicate where it may be found. Moreover it would be vastly helpful to make exhaustive card catalogs of certain subjects which are locally important, as textiles, ceramics, printing, metal work, etc. For instance, there are some phases of design which can only be studied by the aid of ethnological exhibits, commercial displays, or industrial collections and in institutions founded for other than art purposes, like the historical society. Even the student is oftentimes unaware of the channels through which material may be secured, and this is especially true in the case of semi-private endowments. The museum ought to collect all references which in any way touch its purpose and, by coöperation with other institutions, both public and private, perform a service which at present devolves upon the library, which is not in position to do it thoroughly. The fact that libraries have done their best to care for special groups of artisans is evidence of the need. One library in a manufacturing center near New York has achieved marked success in such a task. It has not only indexed articles and books, but illustrations such as would aid those engaged in the industries; it is this artisan class which more than any other, through its modest attempts to produce a beautiful product, engenders a belief in fine things for their innate charm of form and tone. Craftsmen and designers go

to this library continually, and its success in this direction alone is going to hasten the day when the city will have a museum of its own.

This discussion has a single meaning, which is that the large number of art workers have need of a type of classified information which, outside a few large cities, is not obtainable. The museum could furnish it but does not, probably because it does not realize how valuable it would be; it does not know this because it has not advertised museum resources and brought to light the number of possible patrons.

CONCLUSION

The only statement which I can make in conclusion is that the work the museum has done is in no wise unappreciated. On the contrary every advance toward closer relations with its patrons has been widely acclaimed as good policy. And the museum itself has gone on record repeatedly of recent years as desiring the confidence of the public. Every instance of the kind is inspiring, but if it takes more than one swallow to make a summer how many museums of a kind are necessary to establish precedent? We are all looking toward that time when the museum, instead of graciously accepting, will aggressively seek outside affiliations and usefulness.

Mr. Charles Louis Pollard, curator-in-chief of the Museum of the Staten Island Association of Arts and Sciences, New Brighton, N. Y., then read the following paper:

THE TRAINING OF MUSEUM TRUSTEES

At the Buffalo meeting of the Association a carefully prepared and very suggestive paper by Dr. A. R. Crook on the training of museum curators elicited a spirited discussion which was afterwards continued in the pages of *Science*. The ideas expressed by those who contributed to this symposium were almost as numerous as the proverbial sands of the sea; but if I remember aright, the general impression was that the ideal curator should be a fountain-head of scientific knowledge, an executive of marked ability, a keen business man, an experienced financier, and a social leader of tact and discretion. I am bound to admit that none of the speakers expected to find such a paragon in the museums of this or any other world; but they were certainly unani-

mous in the opinion that he who heads a museum must be a man of parts, and that technical training cannot wholly replace natural aptitude and versatility.

Now in view of the interest aroused by this discussion, I have failed to comprehend why due attention has not been paid to another equally important branch of museum administration, namely, the relation of the curator to the governing body of the institution. I approach the subject with delicacy and some hesitation, but in this Rooseveltian era of free speech I surely need not fear the accusation of *lèse majesté* if I take advantage of a convention of museum curators to offer a few suggestions on the training of museum trustees.

It can scarcely have escaped notice that the form of administration in most of our public institutions is based upon that of our national government. The director or curator and his staff constitute the executive branch, the trustees or managers the legislative branch. There is one important difference, however; the judicial functions are vested in the law-making body, which is therefore in a position not only to formulate and prescribe regulations, but to act as a court of last resort upon its own decisions. Whether it delegates a larger or smaller measure of power to the officials employed to carry out its policy is immaterial to the principle involved; and it is for this reason, therefore, that the governing board or board of trustees, as it is usually called, is a factor of equal importance with the curatorial staff in the process of museum development. Upon the personality or the idiosyncrasy of a single trustee may hinge the decision of a question of great moment and far-reaching consequences.

In the election of a trustee, it is rare that any especial qualifications for the post are taken into consideration. The candidate must naturally be a man well respected, and preferably of some prominence in the community. As a trusteeship is almost invariably a labor of love, it is usually regarded as desirable that men of means should be secured when possible.

There are cases in which the managing body is assisted in its administration by a board of scientific directors, and there are, of course, many instances of professional scientists or artists holding positions on a general board. It is probable, however, that any systematic attempt to establish or maintain technical qualifications for trusteeship would be widely deprecated, since what is sought primarily in the average museum is a business administration.)

This theory would have no defect if the practise were to leave the decision of technical questions absolutely in the hands of the curator. But as I have already pointed out, the judicial function of the board of trustees is the most important phase of its work. It acts as a check upon ill-advised recommendations, and substitutes the ripe judgment of a considerable body of men for what may be the hastily formed opinion of one. It is for this reason that a little more exact understanding of technical problems in museum administration might be desirable in the court that is to review them.

In looking over the above-mentioned paper by Dr. Crook, I discovered that many of the questions suggested in his test examination for the ideal curator might be equally adapted for use in determining the availability of an ideal trustee. In the following list of twenty questions, nine are borrowed directly from Dr. Crook's paper, three are slightly modified therefrom, and the remaining eight may be considered as a test of general acquaintance with the most difficult problems of museum administration.

1. In what schools have you studied?
2. What is your profession, and how long have you pursued it?
3. In what countries have you traveled?
4. Have you ever served on any other governing board?
5. Are you interested in museums, and have you ever visited any institutions of the kind outside of your own city?
6. Have you a practical acquaintance with any branch of museum work, such as photography, taxidermy, cataloging, book-keeping, etc.?
7. What is the extent of your knowledge of natural science?
8. What skill do you think you possess as solicitor for materials and money?
9. Along what lines should a museum be developed; in other words, what is the purpose of a museum?
10. Name ten of the leading museums of the world.
11. What has been the trend of museum development in America during the past decade?
12. Distinguish between (a) the educational and (b) the scientific work of a museum.
13. Has it any other function?
14. Give your ideas of the methods by which a museum should make its appeal to the public.

15. Do you favor the policy of permitting growth by donations or of making active efforts to promote growth along the line of certain ideals?
16. What do you consider the principal requirements for a satisfactory museum building?
17. Do you advocate centralizing the executive powers in the person of the curator, making him responsible directly to the board, or do you prefer to divide a portion of the work among committees?
18. What is your general attitude in regard to recommendations by the curator?
19. Do you believe that the curator should have a seat in the board of trustees?
20. With regard to activities of the staff, do you favor (a) field excursions (b) scientific investigations based on the study collections (c) attendance at meetings of scientific or learned societies (d) outside activities not directly conflicting with museum work?

There is no doubt that a candidate who could pass such an examination acceptably, and who measured up to the generally required standards of character, etc., would make the ideal museum trustee. But I trust it is clear to you that I am discussing this phase of the subject from the theoretical side. Many a curator doubtless sighs for the fate of his pet scientific projects when ruthlessly vetoed by a board of business men, or still worse, by a body of politicians serving as trustees *ex officio*. It is highly improbable, however, that any ideal standard requirements will ever be adopted, and so it remains for us to consider whether we, as curators, have not our part to fulfill in the training of museum trustees.

I am aware that this is treading upon delicate ground, and that I may be accused of undue presumption. But the duty to which I refer is not that of attempting to dictate policy to our boards, but rather the duty we owe to ourselves of placing our administration in the most favorable light before the board. It often happens that the curator is overruled because he has failed to explain a proposed measure in detail; or that a trustee votes against certain improvements because he has been afforded no favorable opportunity of inspecting local conditions. I fear it sometimes happens that the governing board is regarded by the curator rather as a necessary evil to be toler-

ated than as a body of confidential friends and advisers; but I venture the suggestion that when this unhappy condition exists, it is because the board is composed wholly of practical business men who cannot be expected to grasp at once the advantages, we will say, of building up a study collection in a museum devoted chiefly to exhibition series. In place of bare recommendations a little fuller explanation, with perhaps a touch of personal magnetism, might accomplish wonders in such a case.

The raising of special funds is a battlefield upon which many curators clash swords with their trustees. Yet here again the museum itself affords a good object lesson, and a personally conducted tour therein may be productive of a trip to Africa or a purchase fund of substantial proportions. Personally I sympathize thoroughly with the general policy already adopted in some of our institutions, whereby official hours are considered only as a means to an end, and the curator is supposed to be at the service of the museum when its interests so require, being free to consult his own interests when his time is not thus demanded. He can then give the trustees every facility to visit the museum under his guidance whenever it may suit their convenience, and the extra time and trouble will surely find fruition in a closer harmony between the administrative and governing board and a more complete understanding on the part of the latter of administrative problems.

The training of a curator is largely a matter of preliminary technical education. The training of a trustee is the result of coöperative experience to which patience and faithful work on the part of the curator is largely contributory.

Mr. Henry L. Ward, director of the Public Museum of the City of Milwaukee gave the following paper:

TRUSTEES AND THE EXECUTIVE OFFICERS OF MUSEUMS

This subject is rather a delicate one for treatment by a museum executive, but its importance is so great that when, a couple of weeks ago, our secretary requested me to present, at this meeting, a paper with the above title and as a different phase of the subject than that to be treated by Mr. Pollard under the title "The Training of Museum Trustees," I responded that I would, although it is to be confessed

that my feelings were probably somewhat similar to those of the "barnstormer" who when asked, after the play, if the audience had called him before the curtain, replied: "Yes, they even dared me to come out."

Appreciating the importance of this subject, I would prefer that it be presented as a symposium by the directors of two or three museums and by an equal number of chairmen of boards of museum trustees, in order that any differences in the conceptions of the proper relationships and duties of trustees and directors caused by the different view points might be made clear and a concordance of ideas reached as to the shortcomings of various systems of museum management now in vogue, and that tangible efforts might be made towards securing improved conditions for any deemed in need of and susceptible to amelioration.

By "improved conditions" be it understood that conditions affecting the welfare and efficiency of the museum are meant, and not such as may have any bearing whatsoever on trustee or director as individuals; for museums are created, or should be created, to fulfill certain missions and not to furnish positions of honor or emolument, either or both, to trustee or director. These compensations are incident to efficient service and whether they are greater or less in either instance is a minor concern in itself and worthy of attention, in this consideration, solely as it may effect the good of the museum.

It is a matter for regret that our meetings are seldom attended by representatives of the trustees of museums other than of the particular institution in which we, for the time being, convene. It would be very desirable that each museum enrolled in the association should be represented not only by members of its staff but also by the chairman of its board of trustees or of its executive or administrative committee. It would be a step towards greater museum efficiency were these matters to be fully and candidly discussed before such a body, more completely representative of all phases of museum administration than the Association has hitherto been.

A board of trustees appoints the director of the museum. In this selection it is presumed that they will choose some one competent to direct the activities of the curators and other employees so that the sum of their labors will produce a harmonious whole instead of a series of disconnected, irrelevant departments, a man whose scientific knowledge and judgment are sound and who is versed in museum technique. Having selected such a person as their executive officer, how else can

the trustees best aid in the development of the institution under their charge? How active or inactive in the management of the minutiae of museum affairs should they be in order to obtain the best results? The proper settlement of this query is of great importance and should be approached from an absolutely impersonal viewpoint, without the slightest consideration of relative dignity of trustee or director, but only with respect to the best interests of the museum and the public which it is to serve. There is an old and homely saying that "too many cooks spoil the broth." It is, we think, self evident that there can be but one head in the active management of a business such as the running of a museum. The board of trustees consists of many persons possessed of many and often widely different opinions who, if they should as individuals attempt to carry these out in the work of the institution, would frequently be undoing each other's efforts and would bring confusion into the labors of the staff and the resultant exhibits of the museum. Furthermore, few of the trustees of museums are especially versed in the technicalities of the science or sciences of which the museum treats and consequently can not bring expert knowledge to bear on the selection or the arrangement of specimens; few are grounded to any considerable degree in the methods and possibilities of the preparateur or the numerous features of museum technique that enter so largely into the success or failure of every exhibit, the quality that gave cause for the statement that the educational value of a museum depends not so much on the specimens that it contains as on how these are used. Most trustees are business men who must devote much of their time to their personal interests and can not have the familiarity with the collections and the employees and their various degrees of efficiency that the director has.

From these considerations it seems unwise that trustees should attempt the exercise of a personal supervision of the museum. Their varied tastes, inclinations, likes, and dislikes must be expressed not as individuals, but as a body, by means of resolutions defining policies; and the execution of the details required in the carrying out of such policies must naturally be left to one whose training has especially fitted him for this work and whose entire time is at the service of the institution.

Granting that the director is more specialized in museum matters than the trustees, the question might be asked: what is the use of trustees, what is their function? If a museum is owned by a scientific society or by a municipality, state, or nation, or by any combination

of these, the trustees represent the society, municipality, or other ownership and in this representative position are charged with seeing that the museum is run in a manner calculated to make it, as far as its resources will permit, of the greatest usefulness to its owners.

It is a fetish of American government, though I believe largely a fallacy, that there is more wisdom in the decision of many than in that of one. The real result of a board's or committee's deliberations is, I believe, to reach a decision more nearly representative of the average than of the best judgment of its constituent members; but while the intelligence of action on any specific subject is probably lower than that of a competent individual, yet we have one advantage, i.e., that a fairly numerous board represents more fully the many interests of the larger body of citizens back of it than would a single individual. In this capacity they are watching to see that the varied desires of the community are given due appreciation, that the museum is not run for the sole benefit of or with undue attention to the desires of a minority of the people.

Again, it is always desirable that any one, no matter how altruistic he may be, shall from time to time give an accounting of his stewardship, else might he forget that he is an agent and not an owner. It is well for any one occasionally to have to justify to others his policy, for this has a clarifying effect on his own opinions and is calculated to cure an evil somewhat common to human nature, though I believe foundless frequently in museum men than in most citizens, of adopting various methods of procedure because they are in common use without first subjecting them to severe criticism to determine whether they best meet the particular needs of his institution. Also, in the dealings of a director with other employees of the museum, it is best that there should be a court of review lest direction degenerate into autocracy.

In practice we find much disparity in the degree of oversight exercised by museum trustees. The United States National Museum is one of six establishments coming under the Smithsonian Institution. The fourteen members of the board of regents of the Institution consist of the Chief Justice and the Vice President of the United States, three United States Senators, three members of the House of Representatives and six citizens, among whom are usually found some of the leading scientists of the country.

The board of regents meets but twice a year, and at its annual meeting passes the following:

"Resolved, That the income of the Institution for the fiscal year ending June 30,——, be appropriated for the service of the Institution, to be expended by the secretary, with the advice of the executive committee, with full discretion on the part of the secretary as to items." The "secretary," it is unnecessary to say, is the salaried executive officer. The last available report of the Institution, that of 1911, shows that the total resources from income amounted to \$118,800.18 and further, it was charged by congress with the disbursement of appropriations, outside of this interest-produced income, amounting to \$789,000, of which \$569,500 was for the National Museum, besides which "The allotments to the Institution and its branches, under the head of 'public printing and binding,' during the last fiscal year" aggregated \$72,700 of which \$34,000 was for the Museum.

The support of the National Museum is now derived entirely from annual appropriations made by congress, and consequently its operations are actually controlled by congress. The secretary, as executive officer of the board of regents, is the one designated to carry out these congressional acts, and is directly responsible to congress and the accounting officers of the government for the interpretation of these acts and the proper expenditure of the funds that they carry. His reports are made to the board of regents and through them to congress, but he also has direct relations with congress and the executive.

Immediate charge of the museum is delegated by the secretary of the Smithsonian Institution to an assistant secretary in charge of the National Museum, whose general plan of procedure for the year is approved in advance by the secretary, who subsequently may enter into the details as much or as little as he pleases. The secretary considers all important matters, and all expenditures receive his final approval, although the detail of these, following the annual plan of operation adopted, is left to the assistant secretary.

As far as business efficiency is concerned, there is little question but that this mode of procedure is superior to any other that might be adopted for so large and active a museum. Direct government by the regents would necessitate their being in practically continuous session.

The trustees of the Brooklyn Institute of Arts and Sciences include the mayor of New York City, the president of the borough of Brooklyn, and the commissioner of parks of the boroughs of Brooklyn and

Queens, ex-officio trustees. The board has a president, three vice-presidents, a treasurer, and a secretary. Those having especially to do with the museums are an executive committee of twelve members; a committee on museums of art, five members; committee on museums of science, five members; committee on ethnology, five members; committee on libraries, five members; a total of twenty-two individuals as enumerated in 1910. The board as a whole does not employ itself with the details of the management of the museums, but leaves these to the executive committee, which makes monthly reports to the board.

The city appropriation is used for maintenance, apparatus, cases, etc., which in 1910 cost \$105,434.33. The purchase of specimens is from the museum collection fund, which is privately subscribed, \$6612 in 1910, and the larger part of this is from members of the board of trustees. This fund is spent under the direct recommendation of the executive committee or upon their ratification of recommendations of the curator-in-chief of the museum. During the past two years the curator-in-chief has had authorization to spend \$1000 of this fund, at his discretion, for natural history material available at odd times and under favorable conditions. Another fund, the Graham Natural History Fund, is subject to a similar blanket approval of \$100.

Other special funds, as various art funds, memorial funds, etc., are expended under the initiative of individual trustees recommending purchases to the executive committee. This committee meets weekly from October to June and in the remaining months of the year is represented by the summer committee of five, three of whom may legalize any expenditure. The curator-in-chief has authority to make expenditures at any time to the amount of \$5 per single order.

The weekly meetings of the executive committee, the fact that various of these gentlemen spend several hours a week at the museum and further evince their interest in it by subscribing several thousands of dollars annually for the purchase of specimens, probably places them in much closer touch with the affairs and needs of the museum than is commonly the case with trustees and causes them to take an unusual amount of the detail management into their own hands. Yet it is to be noticed that their executive officer is given authority to expend \$1100 for specimens and to make a multitude of current expenditures limited to \$5 each; a delegation of power much greater than that of many museums whose trustees have far less personal knowledge of their affairs and have added little or no funds from their

private resources. Both of these systems seem in practice to yield excellent results, although they are quite antithetical.

Quite different was the practice and results that obtained in another large museum some years ago when the trustees usurped the functions of the director and wrought chaos in the arrangement of the collections. The resultant investigating committee of trustees saw the error of what they had done and attempted to make amends by putting themselves on record as recognizing the unwisdom and impropriety of their actions, but the affair had progressed too far to be settled by regrets.

The selection of the director of a museum is generally the result of careful consideration and investigation of the qualifications of various individuals so as to obtain the services of the most competent. The selection of trustees is frequently made with less discrimination, although it would seem as though many of the requirements should pertain to both positions, and that if trustees are to be active they should be selected with equal care. Let us consider for a moment what qualifications would be desirable in this office.

Museums are, or should be, in their main functions, educational establishments; albeit of a type peculiar to themselves, differing materially from ordinary schools or colleges. Their students are: the general public, ranging in scholastic training from the lowest to the highest degrees; and the specialist who, either in the employ of the museum or otherwise, uses its collections or its expeditions for research and the advancement of knowledge.

The teaching methods of museums are various and somewhat complex. The public is instructed generally by the objective teaching of carefully selected, arranged, and labeled exhibits designed to convey definite ideas; by direct instruction in the form of lectures that may be delivered before general, mixed audiences, or to special groups, as classes from schools, study clubs, etc.; by the loan of illustrative materials for use by school teachers; and, less widely, but probably more seriously, by the contributions to knowledge made in the publications of the museum.

The specialist is given opportunity for advancing knowledge by study of the collections brought together by the museum, by comparisons of these with those of other museums, and by direct observation and study of such objects in the places of their occurrence; and these studies of his in field and laboratory generally form the basis of museum or other publications.

The fundamental qualifications of a trustee would, therefore, appear to be the possession of a fair appreciation of the value of such work, of sympathy with the objects of the museum that he is to serve, and of those temperamental qualifications requisite to insure respect and harmonious dealings not only with his fellow members of the board but also with the museum staff. It would also be desirable that he should be possessed of a considerable degree of knowledge along some branch of the museum's work in order that by appreciation or direct assistance he might further its interests; that he should have executive ability, be of recognized culture or of civic importance so that his presence should command respect for the institution that he serves; and that he should lend his financial support to the building up of the collections as an example for others to follow. It is to be expected that a man of this type will, in his action on the board, be constructive, that he will look upon measures in a broad and liberal manner as to their value to the public to whom the museum ministers and to their ultimate effect upon the institution itself.

A board composed of men of this high type, by whose service the institution is honored rather than the reverse; to whom the director and his staff can confidently look for cordial support in all that tends toward the advancement of the museum; men who have a lively interest in the affairs of the museum so that they willingly give of their time and money for its development; such a board can not fail to develop a museum worthy of the support and respect of the community.

The presence on a board of men whose actions are open to the suspicion of being influenced by political motives, men whose educational qualifications are conspicuously low or whose moral standards are subject to question, must inflict an injury both within the museum and upon its standing with the community that no degree of business efficiency can counterbalance.

The manner of appointment of boards of trustees of museums varies considerably. Unfortunately, there appears to be no publication that brings this data within easy reach else I should have attempted a compilation of these methods and of the numbers of boards coming under each category. It is self evident that trustees should be selected on account of their especial fitness, so that the museum shall develop along worthy lines because of the trustees and not in spite of them. Sometimes this object is secured by means of ex-officio members, the high offices from which they are drafted insur-

ing men of character and ability. When selected from a large scientific society it is presumed that these members will represent the highest type of membership. Least certain in character of selection is that made by the executive of a city in which the choice is restricted to a fixed number of citizen and of aldermanic members.

The tenure of office of trustees is also an important but variable matter and has a very direct bearing upon the value of the services of these members; for it is patent that, ability being equal, a man who has long served on a board and is personally familiar, for many years of its history, with the affairs and growth of an institution is better able to assist in guiding its future course than is one not possessing this knowledge.

Next in importance, and usually connected with the term of individual service, is the proportionate number of trustees that may change at any one time. In one museum, barring accidents or death which might increase the number, each year the term of at least one trustee lapses, and every second year there is a liability of four out of the nine members changing; but, fortunately, at least one of these is frequently reappointed. When all four change it usually means the disruption of board and committees to an extent decidedly prejudicial to the best interests of the museum.

The ideal board would probably be obtained by placing the selective power in some group of cultured men who are interested in the museum, cognizant of its needs, politically and religiously disinterested and not restricted in choice to a narrow group. The value of such a board would be proportionate to the length of term of its constituent members, and were these terms to be for fixed periods they should be so arranged as to make equal annual changes and not bunch them so as to imperil the continuity of policy in management.

It needs no argument to make apparent that when a board has placed an executive officer in charge of a museum the board should carefully guard his authority and dignity unless it is convinced of his incompetency or unsuitability; in which case it should cause his removal.

The foibles of human nature are many and peculiar. Sometimes members of boards will resent recommendations or suggestions from the director about museum matters upon which they must act and about which they have no personal knowledge, nor could they be expected to have any unless they were spending their time performing the director's duties. As illustrating an extreme case of the lack of

familiarity with the affairs of a museum that it is possible for a member of its board to have, I may mention the instance of a trustee of a museum who after serving two years on the board, during which he was a member of both the purchasing and the furniture committees, stated, when his term had expired, that he intended calling sometime and going through the museum; because, although a resident of the city for more than twenty years, he had never seen the museum. It is somewhat difficult to determine how it could be possible that such a person's judgment on the advisability or non-advisability of purchase of specimens could be of any value; and how his vote on such matters could be other than a constant menace unless he should consistently follow a judicious mentor.

It is generally to be presumed that the director of a museum is more familiar with the multitude of details that enter into its normal running than are the trustees, that he is more acquainted with the abilities and possibilities of its staff than are they, that his familiarity with the existing collections and exhibits is greater, and consequently his opinion concerning the desirability of new acquisitions, together with the values proper to pay for these, is superior. If such be the case, the trustees would work in the best interests of the institution at least by giving heed to his recommendations in such matters, if not by placing them largely in his hands for direct administration. In other words, it seems that the best results should be expected by the trustees giving their attention to broad matters of policy and leaving the development and the execution of the details to an efficient director who can give his time to these matters.

A board of trustees should, of course, be above all personal interests, and if the institution is the property of the people of a municipality, state or nation, its members should maintain constantly in mind the fact that they are serving this public and that their every act should be dictated by the welfare of the people and of the institution they are honored by serving. By forgetting this, and assuming an attitude of personal ownership, the interests of the museum may be sacrificed in very many ways on the unclean altar of selfishness and personal aggrandisement.

The trusteeship of an important museum is a position of honor and calls for men of broad education, high ideals, worldly wisdom, and even temperament in order that in return for the honor conferred on them the community shall receive its just meed.

An important matter resting with boards of trustees is the selection

of their executive officers. It is to be presumed that the person selected for this position has been technically trained to his work and possesses the requisite psychology to be a leader of his staff and preserve amiable and coöperative relations with the governing board of trustees.

At the Buffalo meeting we listened to an interesting paper by Dr. Crook, in which were set forth the numerous attainments that should characterize such a person, and so I need not reiterate them on this occasion. It will suffice to recall these as consisting of as near omniscience as it is given to mortal man to attain, coupled with all the virtues and graces that have ever been cataloged. You will all recognize these specifications as applicable to most museum directors!

The duties imposed on these executive officers vary in different museums and may include not only the directorship of the museum, but that of secretaryship of the board and of all of its committees and the treasurership of its funds. It is hardly necessary that I assure this audience that the office is no sinecure. The position of the director is somewhat like that of the wheat between the upper and the nether mill stones, and he has full need of all the self-control and optimism that kind nature ere bestows on man. A nervous or finicky executive is apt to be ground from both above and below at the same time until the gods make mad him whom they would destroy. If he be a proper person and if these other two bodies of men are all that they should be, the task should be an unadulterated pleasure.

Above all he should be a man of clear conceptions and high ideals, ideals of his duty to his governing board and also to the museum. Presumably the two will parallel and duty performed to one will be done to the other also. Occasionally, however, unusual conditions may arise when a trustee forgets his duty to the institution and from personal motives, perhaps those of friendship to some individual, attempts action that would be deleterious to the best interests of the museum, presumably a lapse due to impetuosity rather than of deliberate intent. Should such an occasion occur, when it is clear that the proposed action would unquestionably be detrimental to the welfare of the museum, then there must come a parting of the paths of duty, and the director must choose between an acquiescence with his board, an easy shifting of personal responsibility under cover of duty to authority, or he must take the disagreeable and dangerous course of opposing such authority from a high sense of duty to the real owners, the public. Such an occasion, fortunately, would be most unusual, but should it arise it seems to me clear that as the higher duty is that

to the community and to the institution, the director should cast aside all personal interests and stand by his institution. In stating this I am well aware that I am not voicing the opinions of all trustees nor of all museum employees. It is perfectly true that the director of a museum occupies a position subordinate to the board of trustees, emphasized by the fact of his appointment by the board, and that the power of removal rests with them; but if the trustees should forget or misinterpret their own duty to the institution it would be cowardice on the part of the director to fail to protest, and, fortunately, such protest would probably meet the approval of most of his trustees, even though engendering the anger of some.

My conception of the mutual relationship is that it is quite parallel to that existing between the president of a college and its board of regents. Were the regents to attempt to legislate matters of pedagogic procedure that the president knew to be unsound, or were they to advance or degrade faculty members purely for social or political reasons, subversive to the best interests of the college, the president would be considered lacking in moral stamina were he to fail to protest against such action. We conceive that while he owes allegiance to his regents yet in even a greater degree does he owe it to his college. We incarcerate bank cashiers who, following the directions of their presidents, falsify accounts so as to cover defalcations in which they have taken no other part; and so, I believe that, while it is the duty of a director, under all normal conditions, to follow the direction of his trustees, yet in so doing he must never be guilty of moral turpitude nor play the coward by the easy route of absolving himself from responsibility by shifting it to greater authority.

While we maintain that there should be a considerable degree of personal responsibility felt on the part of directors, yet we would sedulously guard against anything approaching an idea of personal ownership, of responsibility to one's self alone, for such an attitude would be much more likely to lead into dangerous error than would a blind execution of the will of a number of men.

If boards of trustees and directors are both animated by altruistic motives, and are broad and liberal minded, there should be a mutual respect and confidence that will make the service of both a pleasure and produce an efficiency of administration not otherwise obtainable.

In answer to a question by Dr. W. P. Wilson as to the method of appointment of the trustees, Mr. Ward said that all the trustees of the Milwaukee Museum are appointed by the mayor, with two exceptions, viz.—the president of the school board and the superintendent of schools, who are *ex officio* members. There are four citizen members and three aldermanic members. The citizen members hold office for four years, one going out of office each year. The aldermanic members are appointed at one time and hold office for two years. The director has nothing to say regarding the appointment of the trustees. In fact, there is a rule that he would automatically discharge himself if he should interest himself in the appointment of any member of the board of trustees.

Mr. Frank B. Gay (Wadsworth Athenaeum, Hartford, Conn.).—"I learn that I have had a rather unique experience. The institution with which I am connected at one time housed seven different corporations, each with its own board of trustees and its own executive officers. Now, if each of these had had its full quota of seven trustees there would have been from eighty-four to ninety trustees. As a matter of fact, they are all comprised in less than eighteen individuals. There is a natural history society, historical society, public library, library of reference, and three or four more which I will not mention. Some years ago it was found necessary to change this somewhat, and each board of control that held a charter from the State of Connecticut went to the legislature and had the charters changed so they might be self-perpetuating. The governor of the State of Connecticut, the mayor of the City of Hartford, and the president of Trinity College are now members *ex officio* but the rest of the members are self-perpetuating. In the last few years they have made it a point to have officers of one board serve in a different capacity on another. I have seen three meetings take place with exactly the same members; the president of one is the vice-president of the other, and he simply changed chairs as the session went from the meeting of one board to the meeting of another, while the secretary of the first became the treasurer of the second. I had a letter from Cleveland asking how we managed to make such a happy family out of such varying boards. This is the explanation."

The Association then proceeded to the election of officers for the ensuing year with the following result:

President:

Henry L. Ward, Director, Public Museum of the City of Milwaukee, Milwaukee, Wis.

First Vice-president:

Benj. Ives Gilman, Secretary, Museum of Fine Arts, Boston, Massachusetts.

Second Vice-president:

Oliver C. Farrington, Curator of Geology, Field Museum of Natural History, Chicago, Ill.

Secretary:

Paul M. Rea, Director, The Charleston Museum, Charleston, South Carolina.

Assistant Secretary:

Laura L. Weeks, Secretary to the Director, The Charleston Museum, Charleston, S. C.

Treasurer:

W. P. Wilson, Director, The Philadelphia Museums, Philadelphia, Pa.

Councillors, 1912-1915:

Edward S. Morse, Director, Peabody Museum Salem, Mass.

William C. Mills, Curator and Librarian, Ohio State Archaeological and Historical Society, Ohio State University, Columbus, Ohio.

The Association adjourned for luncheon as guests of the Metropolitan Museum of Art. In the afternoon the photographer's department, the armorer's shop, the tapestry and repair shops, and the textile studio, as well as the usual exhibition rooms, were thrown open to the members for inspection. Some members visited the New York Aquarium at Battery Park. Tea was served by the ladies of the Metropolitan Museum at five o'clock.

SESSION OF WEDNESDAY, JUNE 5

Evening

The meeting was called to order by President Morse at 8.15 p.m. at the American Museum of Natural History. Dr. Milton J. Greenman, director of the Wistar Institute, Philadelphia, Pa., read the following paper:

LABORATORY AND MUSEUM SHELVING

The museum shelving to which the attention of this Association is called was designed more especially for the storage of specimens and for use in laboratories and preparing rooms. It is especially adapted to all forms of temporary use. The shelves may be quickly put in place, readjusted as needs demand, and as quickly removed and stored away.

There are numerous forms of adjustable shelving furnished by dealers, but most of them depend upon a good wall surface or other structure for support.

The form I here present is constructed as follows: $1\frac{1}{2}" \times 1\frac{1}{2}" \times \frac{1}{4}"$, bessemer channels are used as upright supports. These supports are anchored to the floor by small foot plates of cast iron or by plain angles, and secured to the ceiling or wall by screws, expansion bolts, or such other means as the structure of the building may require. They are tied together by one or more horizontal bars bolted to each upright. In some cases it is desirable to secure the uprights together by these horizontal members and erect the structure in one piece.

The two free edges of these $1\frac{1}{2}" \times 1\frac{1}{2}"$ upright channels are drilled and fitted with a series of transverse pins, $\frac{1}{4}"$ in diameter, and spaced $1\frac{1}{2}"$ from center to center along the channel, forming a miniature ladder like structure. (Fig. 1.)

These upright channels are erected along the walls of rooms where shelving may be required. They are spaced equidistant from each other, in all rooms, thus permitting the interchange of shelves between all the rooms of the building. A room provided with these uprights on all free wall spaces becomes at once a convenient storage room, laboratory, or preparing room as far as shelving facilities are concerned, since shelves may then be placed at any location on the walls.

The shelf brackets vary in design according to the purpose for which the shelf is intended.

First, let us consider the shelf for storage of jars of specimens or other heavy material. These bracket supports are cut from $2" \times 1"$ steel channel, 8" in length tapering to a thin edge. In the process of manufacture the steel channel is cut into lengths 3" longer than the bracket length, each piece is then sawn diagonally across, making two tapering brackets. On the larger end of the bracket the flanges of the channel and a portion of the web are milled off and a hook of proper size, to engage the pins of the uprights, is here formed in the

remaining side of the web of the channel. The flange opposite or below the hook is milled to the proper length to rest against and maintain the bracket at right angles to the upright. (Fig. 2.) Screw holes are bored in the upper flange of the bracket so that it may be screwed to a wooden shelf of the proper length. This work requires at least three operations on the milling machine, not to mention the cutting to length, drilling, etc. Where large numbers are required a very much cheaper method would be to stamp them from sheet metal and shape them with a die. This shelf has been found very useful for all kinds of storage, laboratory and preparing room use. Its strength and rigidity together with its portability and fire-proof qualities are its chief virtues.

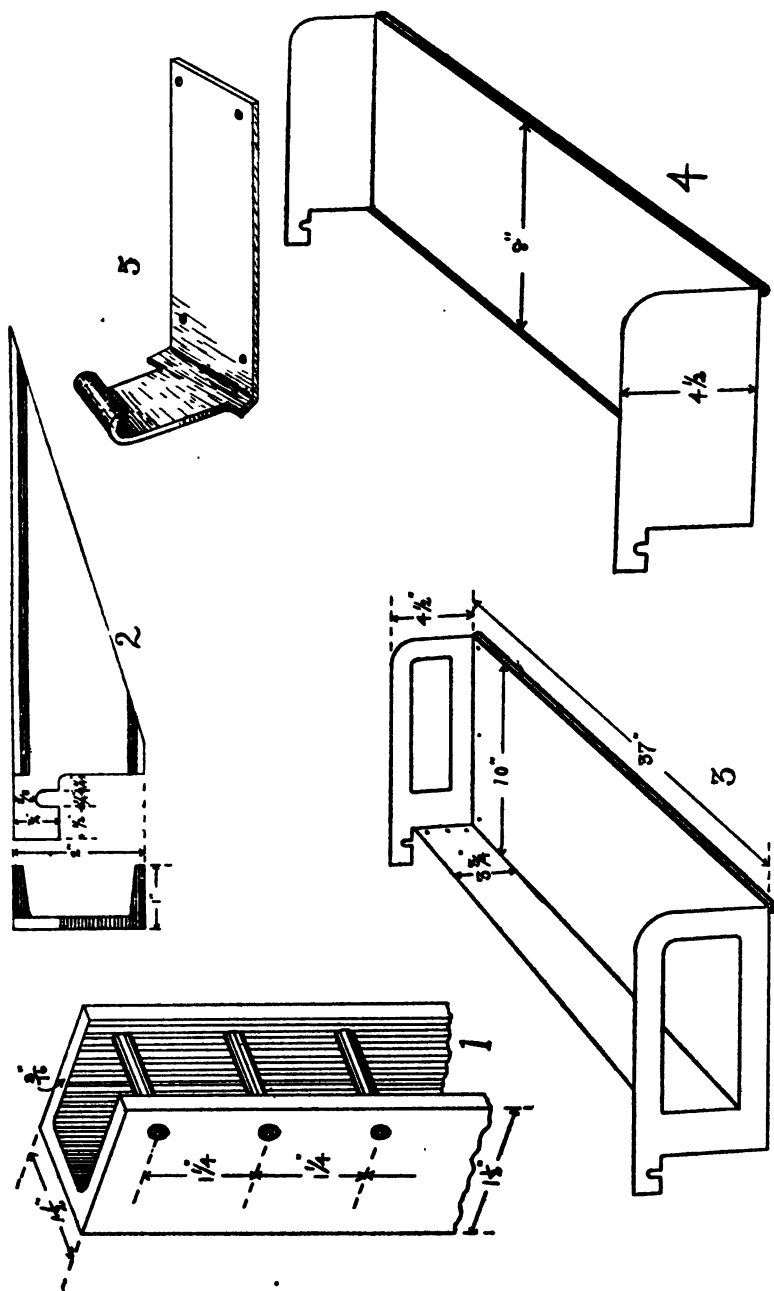
These shelves are frequently used as supports for apparatus secured to their under surfaces and the fact that they may be readily shifted with the apparatus attached to any other location makes them very convenient for such purposes.

For books, pamphlet cases, and library use generally, three different types of shelves have been devised. One form consists of a sheet steel shelf $\frac{1}{8}$ " thick with a $\frac{3}{4}$ " rolled front edge and a back extending upward three inches from the rear border of the shelf and ending in a folded edge. The ends are cut from separate pieces of $\frac{1}{8}$ " sheet steel. The central portion of the end is cut out to form a handle for each end of the shelf and to make the shelf somewhat lighter. At the upper rear angle of each end is formed the hook which engages the pins of the upright. (Fig. 3.)

Another form of steel shelf is $\frac{1}{8}$ " thick with rolled front and rear edges and solid ends $4\frac{1}{2}$ " high. The ends are cut from separate pieces $\frac{1}{8}$ " thick. The hook is cut on the upper rear corner of each end. This type of shelf is 8" wide and is used chiefly for books. (Fig. 4.)

Still another form is a shelf 12" wide with a 12" solid back of $\frac{1}{8}$ " sheet steel. The front edge and the upper rear edge are turned into a $\frac{3}{4}$ " roll to add stiffness to the shelf. The ends are triangular in outline cut from $\frac{1}{8}$ " sheet steel with the usual hook for support at the upper rear angle. This form of shelf is used for storage of pamphlet cases. The vertical back of the shelf serves to close the open edges of the pamphlet cases.

In narrow wall spaces where the standard length of shelf cannot be used a single upright serves excellently for shelves up to 16" in length. These shelves are carried on a special hook bracket 2" wide and 5" long. A projecting hook engages one of the transverse pins of the upright and gives rigid support for a short shelf. (Fig. 5.)



Portable tables or countershelfing may be readily secured at any point where these uprights are located. Likewise closets, cases and various laboratory devices may be secured to the wall at convenient points.

In constructing new buildings it is perfectly feasible and a most ideal method to anchor the upright supports in the walls of all rooms designed for storage or work rooms, permitting the edges of the upright channels to come flush with the plaster.

These forms of steel shelving and supports have been satisfactorily utilized in the library and laboratories of the Wistar Institute. The open construction permits the greatest possible influx of light. The finish may be paint, bronze plating, or galvanizing. Most satisfactory results have been obtained by copper plating and then staining by dipping in a very dilute solution of potassium sulphide; the surfaces are then burnished with a metal (brass) scratch brush and lacquered. Almost any tint from a light bronze to a bronze-black may be obtained in this manner.

President Morse.—"I invented an adjustable bracket in the year 1867. I made grooves in a column of wood, and drove bolts through them on which to hang my brackets. It was used at the Metropolitan Museum and at the National Museum at Washington. I found, however, that insects got into the grooves. Afterwards I invented a notch but insects found lodgement there also. As Dr. Greenman's racks are made of metal, they can readily be blown clean."

Mr. Charles F. Silvester (Princeton University)—"The ordinary key-hole bracket which is on the market, while not quite as wide in its application, is much cheaper."

President Morse.—"The objection to the key-hole bracket is that the channel iron is turned towards the wall and furnishes a hiding place for museum pests which cannot be reached."

At this point, Dr. C. F. Millspaugh, curator of botany in the Field Museum, Chicago, demonstrated with the aid of models some conveniences in installation.

Mr. Henry W. Kent then spoke on "A Glossary of Art Terms," as follows:

Mr. Henry W. Kent (Metropolitan Museum of Art).—"I hesitate to have this called a paper, as I want rather to talk about something in which I am very much interested, in order to get suggestions from you. Since it relates to the Metropolitan Museum, I must apologize for what seems to be a personal note.

"For some time we have been trying to make up our minds about cataloging our collections. I suppose to those of you who are connected with science museums this sounds affected, but when you reflect that very few museums of art in the world catalog their objects it will not seem so frivolous a subject. The great museums have hand books which they sell for a shilling, a lire, or a franc, but I doubt if they have a careful list of their possessions.

"Having been born and bred a librarian, it has always seemed to me that the methods of the library should be translated to the museum, and so I have tried to catalog objects of art in the same way that books are cataloged.

"This brings up classification as well as cataloging, but I mean to speak on the exact subject of cataloging as understood in libraries, not touching upon classification.

"In a museum of art where you have so many different objects, it is highly desirable to have an official catalog on the card index system, which shall go beyond the accession book in giving full information for each object. Now, in a museum of ceramics and woodwork, which includes furniture, and metal work, and all the decorative arts, as well as architecture and painting, there are a good many kinds of things to know about. When you recollect that these come from the different parts of the globe, some from the Orient, some from Europe, some from the South Sea Islands, you have much to consider. And, if you have to separate the products of China, Japan, and Korea according to their chronology; and Persian works and objects of art according to Persian chronology; and European works of art according to the Middle Ages and the Renaissance and the sixteenth and the seventeenth centuries, you have a lot of work cut out for you.

"After five years we have succeeded in getting a form of entry, to use a technical term. If it is a decorative art object, we enter the name, the color, the decoration, and the size; how it came to the museum, the price, and matters of that kind. Then we proceed to classify it—but as Mr. Kipling says, "that is another story." The matter of classical and Japanese art is easily settled. With archeology we can turn to the authorities and have no difficulty, but with the Near-Orient and the Far-Orient it is not so easy. The difficulty lies in the nomenclature of the subject. It comes to about the same thing as when a child asks "When is a door not a door?" and the answer is "When it is a jar."

"For instance, take a plate; everybody knows what a plate is, but what is the difference between a plate, a platter, and a plaque? Two people in naming such things will seldom agree. Take the word box, which has as synonyms a casket, a chest, a coffer, a caisson. What shall we call it? You might say: "What is the difference?" I should answer that there is a great difference according to which name you assign.

"Not only the nouns but the adjectives we use to describe things offer difficulties. Is there any dictionary or glossary of terms such that two persons may by chance use the same word to denote the same object? For objects of decorative art Viollet-le-Duc gives quite a different definition from that in the ecclesiastical dictionary for the same article. So we have begun to make a glossary or vocabulary of terms, keeping all the words together that we can.

"I should be glad if anyone has help to give us. We hope sometime to publish this book for use in all museums." (*Applause.*)

Dr. Frederic A. Lucas (American Museum of Natural History).—"I would suggest to Mr. Kent that now is the time to avoid the trouble which the zoölogists are in. If he proposes a glossary to cover all objects of art, let him associate himself with curators of other museums, so that he may have the consensus of opinion, in order not to add to the difficulties of our zoölogical nomenclature an equally difficult art nomenclature."

The papers of the day being finished, Mr. Rea opened the round table discussion as follows:

INSURANCE OF MUSEUM COLLECTIONS

Mr. Paul M. Rea (Charleston Museum).—"The insurance of museum collections and equipment involves unusual difficulties from the fact that the material frequently has little or no intrinsic value or is impossible to replace. In such cases insurance provides only indemnity for loss. Again, the value of museum collections is often so great that, if fully insured, the premiums would absorb a large part of the income available for maintenance.

"Partial insurance would be worthy of consideration but for the widely prevalent co-insurance clause, which requires that a designated proportion of the total value of the property at risk (usually 75 or 80 per cent) must be covered at all times by insurance, failing which, the insured becomes co-insurer for the difference. For example, if

property worth \$40,000 is insured for \$10,000 with a 75 per cent co-insurance clause, the owner becomes co-insurer for \$20,000. In case of total loss the company will pay the full \$10,000 but for a loss of \$900 they will pay but \$300, since their policy represents but one third of the amount which is required to be insured.

"The valuation of museum collections is extremely difficult and involves the possibility of litigation in adjusting losses.

"Under these circumstances, it seems to me that a general discussion of the practice of various museums and of the views of their officers on this difficult subject will be profitable.

"I would suggest the following questions as indicating the points on which information is desired.

1. Does your museum insure?
2. If so, what proportion of the total value?
3. How is the value determined?
4. Does your policy contain a co-insurance clause?
5. Is this ever waived, except for city property?
6. Would you advise a struggling museum to divert funds from maintenance to pay for insurance?"

Dr. Frederic A. Lucas (American Museum of Natural History).—"This institution does not insure, nor does the Brooklyn Institute of Arts and Sciences insure any of its collections.

"The cost of insuring would be ruinous. For my own part I doubt very much the advisability of a large museum endeavoring to insure its collections. In case of any disastrous fire, I think the litigation to determine the value of the objects would be drawn out to the crack of doom. Lincoln's hat torn in two has no intrinsic value. All its value is in its association. Now will the insurance people pay for association?"

Dr. W. P. Wilson (Philadelphia Museums).—"My story is quickly told. I have no insurance. Twelve years ago I insured our collections for five hundred thousand dollars, and kept them insured for several years, but the City finally decided that it would carry no insurance on any of its property, but would create a sinking fund from that time on, which would gradually increase and pay any loss by fire that the City might sustain. I was instructed to discontinue insurance on the museum objects and building and so we have nothing insured in the Philadelphia Museums.

"My buildings are not fire-proof. If I had my way I would carry enough insurance so that I might start again if burned up totally.

But I do not know what arrangements could be made with the insurance companies. They must understand something of the value of the objects before the fire occurs."

Mr. Albert Hastings Pitkin (Wadsworth Atheneum, Hartford, Conn.)

—"Coming from the most prominent insurance city in the United States, I urge you all to carry all the insurance possible. (*Laughter.*) On the other hand, the museum with which I am connected carries no insurance whatever. The building is fire-proof.

"I think that as an association we represent property enough that may or may not be insurable to present our case specially before the insurance companies and ask of them just what we want in the form of a policy. I believe that it is within our power to demand and obtain what we want in special insurance. Co-insurance I would not advise you to take at any time, but if you are going to take insurance, take all you can get and pay for in the best Hartford companies." (*Laughter.*)

Dr. Charles F. Millsbaugh (Field Museum, Chicago).—"At the beginning we attempted to take up insurance, but we found that in the perfect fire trap in which we are located we would not have any money to conduct the museum if we paid the premium on a policy that would cover our collection. We could get something back on the cases and other equipment but not on the museum objects.

"Now the insurance which the Field Museum carries is the very best. It is a complete fire company residing in the building day and night, with nine city hydrants in the building, and so many Babcock fire extinguishers that a farmer once asked his companion whether it was an exhibition of fire extinguishers. (*Laughter.*)

"Having a non-fire-proof building is therefore a protection against fire, as we do not trust in any thing, but keep watch day and night. When we had a fire from ether vapor, and the whole building was lighted by it, it was put out in ten minutes without any material damage.

"It seems to me that the insurance of collections must depend upon the character of the building and upon the circumstances of the individual institution."

Mr. E. L. Morris (Brooklyn Institute Museums).—"Mr. President, the trustees of the Brooklyn Museums called for an investigation of the insurance question a few months ago. After inspection, the fire underwriters reported that the rate would be three times that on a detached frame house in Flatbush. I am told, however, that many

commercial organizations have actually forced the insurance companies down to a reasonable basis. If a sufficient number of museums could coöperate and get a rate that is reasonable for the material that can be replaced, I think that such an agitation should be started by this organization.

"An absolutely fire-proof building, with absolutely fire-proof cases, and no access to those cases except by authorized employees of the institution, can probably ill afford to carry insurance except at a lower rate than we now get."

Mr. Herbert Brimley (North Carolina State Museum).—"We are under different conditions in North Carolina. The enforcement of stringent insurance laws is in the hands of the insurance commissioner. It is a part of his duty to see that all state property is adequately insured, and he does not miss a museum when he goes his rounds. The contents of our museum is insured for one hundred thousand dollars. I send the insurance commissioner a valuation, and it rests with him to determine the amount of insurance. You ask how we reach a valuation; I would say that it is pure guess work. When I value a specimen at a thousand dollars, that represents the amount it would cost me to replace it in two or three years time. In the case of smaller specimens, I lump a number together. I value the birds at \$7.50 each, and the bird and mammal skins in the same way. We have a good night watchman service and fire extinguishers. I would like to cite an instance: A fire started in the laboratory one night. The watchman pointed the fire extinguisher at the fire and it did not work. The next morning he reported to me and I took it out of doors and showed him how it worked by turning upsidedown."

Dr. George Frederick Kunz (American Museum of Natural History).—"About twelve years ago at the Vienna Museum they thought that it would be a good idea to place insurance on their collections, so they prepared a list of the various antiques. No one realized what the total collection would be worth until it was listed in this way and each piece valued. The total came to two hundred million gulden, eighty million dollars. Well, no one would pay that, and they were not insured. I mention this as it gives an idea of the value of some of our museums."

Mr. Frank C. Baker (Chicago Academy of Sciences).—"We do not insure now. We did for a time, but we found that it was cheaper to carry our own insurance.

"About twelve years ago a private collection of shells in Detroit

was badly burned. It was insured for ten thousand dollars, and after the fire the owner claimed that the collection was ruined, but the insurance company could see no value in it and refused to pay. The matter was going into court when it was suggested that someone be appointed to appraise the collection. The insurance company wanted to know what it would cost to put that collection into its original condition. I was sent to Detroit, and I estimated that to replace the collection and to put it into proper shape would cost something over the amount of the policy. Most of the specimens would have to be re-identified. The labels were destroyed and the data gone on a large part of the collection. I believe in the end the insurance company paid most of the policy. The insurance people told me that they did not consider such material of any value at all. I presume it would be the same with most other natural history collections."

Mr. Harold L. Madison (Park Museum, Providence, R. I.).—"Our building is considered as worth thirty thousand dollars, and the collection is valued at ten thousand. That is an approximately accurate estimate. Some three years ago the insurance was renewed, and the board of park commissioners, under whose administration the museum was carried on, thought that it might be well to continue the insurance, for the protection of the material which the City did not own. There is a city ordinance that absolves the City from any responsibility in case of loss."

Mr. Henry L. Ward (Milwaukee Public Museum).—"Our collection has increased in value, I should say, six to eight times what it was worth a short time ago, and our insurance has decreased to twenty-two thousand dollars. I believe that we are the only city department that carries any insurance. We were met with that 80 per cent co-insurance clause, and the insurance agents told me that it was quite impossible to waive it. There were two of them. I told them that I was very glad to know that, as personally I was not in favor of insurance, and I was confident the trustees would not agree to that clause. They immediately reconsidered, and found that they could waive the 80 per cent co-insurance. (*Laughter.*) So we are carrying twenty-two thousand dollars at the present time on what is probably worth six or eight times that amount."

Mr. Herbert E. Sargent (Kent Scientific Museum, Grand Rapids, Mich.).—"The terms under which some of our collections are held

require insurance by the City and there is blanket insurance which allows for the transition of materials, but its value is small."

Secretary Rea.—"It seems to me that we have learned enough of the practice of museums to give very valuable information. Personally, I have profited greatly from the discussion."

President Morse.—"In our museum in Salem, Massachusetts, we have a slight insurance, but we have the heating apparatus in a reinforced concrete building outside of the three large halls. We have in addition an automatic sprinkling device in the cellar. It is rare that a fire starts in a museum of natural history, and I think the precaution which we take, with thirty-five or forty thousand dollars of insurance makes us content."

"If there are no further remarks on this question of insurance, we will pass to the next topic."

COÖPERATION BETWEEN LARGE AND SMALL MUSEUMS

President Morse.—"If a number of small museums could combine to pay for the services of a good ornithologist, or other specialist, for one or two months each, much might be accomplished. A few months ago Mr. Johnson came to Salem and in a half day straightened out with wonderful skill a great deal of our work. There are specialists in various departments whom the smaller museums could employ for a month or two in the course of a year, and it strikes me that it would be an economical way to get exhibits in order. Whether the great museums could spare one of their assistants for a month to identify specimens is a question. I know that Dr. Barber of Philadelphia could straighten out exhibits in his line in very short order, and I venture to assert that I could go into a museum and straighten out Japanese pottery."

Mr. Harold L. Madison (Park Museum, Providence, R. I.).—"I proposed this topic for discussion, and I had in mind, not only what the President has been speaking of, but also the possibility of large museums sending me some of their duplicate material, which they do not need for exhibition or for scientific study, that I might exhibit it for a few weeks in my museum. I could not buy this material, but I might secure it in this way for a special exhibit. I think this has sometimes been done and is it not making better use of the material than keeping it in storage in the big museum. The exhibition of

new material would attract the people and give a broader and greater value to the educational work of the small museum."

Secretary Rea.—"Two or three years ago we had three or four papers in succession on various phases of coöperation. They were interesting, and seemed to be stimulating papers; I do not know that they have secured any actual results. One of our problems as an association is to focus in some concrete action these suggestions which are made from time to time."

Dr. Frederic A. Lucas (American Museum of Natural History).—"Mr. President, the Secretary wrote to me on this subject, asking what I thought about the coöperation of small and large museums, and I told him that it was such a universal custom that it did not seem to me to be necessary to discuss it; that all the time we are coöperating with other museums. I suppose that hardly a day passes but we identify material for some museum, or receive requests for photographs, or copies of lantern slides. I do not know that we have loaned curators, but that could be done." (*Laughter.*)

Mr. Douglas Stewart (Carnegie Museum, Pittsburg, Pa.).—"The time of Dr. Eigenmann is equally divided between the Carnegie and Indiana State museums. The National Museum spends ten per cent of the time of its curators in helping other institutions or individuals to identify material.

"The loaning of objects for exhibition is rather a different matter, and it would be so apt to interfere with the work of a large museum that it could not well be undertaken on a large scale. We do loan material on a small scale."

Dr. Lucas.—"If I may be permitted to say a word or two on Mr. Boone's paper, which was read this morning, entitled "Why is a Museum?" and Mr. Rea's paper entitled "The Functions of a Museum," I would say that the purpose of a museum should be to lead and encourage almost every great movement. It is not always feasible, however, to do that. It is my belief that the holding of temporary loan exhibitions, while they may prove attractive at the time, is detrimental to the work of the museum.

"I do not feel that the tuberculosis exhibit which was held in the Indian hall in this building, was really a good thing for the Museum, although it drew here something like five hundred thousand people. The hall, which has just been rearranged, has been out of order for several years, and this has been detrimental to the museum, and instead of being good it has been bad for the community.

Mr. Herbert E. Sargent (Kent Scientific Museum, Grand Rapids, Mich.).—"I doubt if our large museums realize what it means to have something new in the smaller museums. The other day someone said to me: "We must have something new. Can't you borrow something? People are accustomed to seeing the exhibits which we have." The idea was brought out in one of the papers that we must have a drawing card to attract people to our museums. There is one hundred times more in this museum than could be seen if a person came here a dozen times and spent the whole day. It is not so with our small museums. A few years ago we had an Egyptian mummy put into our place; you would not have it here or in the Metropolitan Museum of Art, but it drew hundreds and thousands of people. I think a census showed that two hundred and fifty came from remote out-of-town points.

"Our large institutions have in their storage rooms—I know some have, as I saw them when I went into the Philadelphia Museums—many objects which, if sent to the smaller museums, would draw a large crowd. Some of these things that would not be missed could be made into an exhibit illustrating a special subject and started out from one of our large museums. It would arouse new interest in a whole series of museums. This is already being done successfully with pictures.

"I feel this point very strongly, and I wish there were more coöperation so that it could be done on a larger scale. It is worth more than the loan of some small specimen, or than getting a curator to identify small objects. It is something which benefits the people."

Dr. William T. Hornaday of the New York Zoölogical Park, suggested that the need which Mr. Sargent expressed might be met at small expense by the preparation of an exhibit to illustrate the destruction of wild life. He stated that the Zoölogical Park was preparing such an exhibit, showing the former abundance of game in this country, its importance in pioneer development, the increasing forces of destruction in recent times, the grave outlook for the future, and the means of preservation.

Mr. Charles R. Toothaker (The Philadelphia Museums).—"I am not quite sure that the director of the Philadelphia Museums will approve of what I am about to say, but this matter of coöperation between museums is brought up so often that, in self defense, I must make a statment of my feeling in the matter.

"I know that many of our members are acquainted with the fact

that we have in Philadelphia a large amount of duplicate material. I sympathize with the feeling of other members, that it would be nice if they could have some of that material either as their own property or as a loan. There is no lack of willingness on our part, but it is lack of ability. It is practically impossible to do one-half the things that are asked of us. We are coöperating with other museums all the time. I could cite half a dozen or more instances, in which we have given, loaned, or exchanged things with other museums, in and out of the state of Pennsylvania, during the past year. The things we have done are fewer than the things we have refused, but we have done all that we had time to do, and some that we had not time to do. How we can do more passes our comprehension.

"We have a large collection of photographs, and within a year some one from the American Museum asked us for certain lantern slides from our negatives. Now, our photographic laboratory is taxed with our own work to the full capacity of the room. You cannot put another operator in the room. It is impossible for an outsider to go in and use our negatives. It is not safe to let the negatives go out. I have no doubt that this state of affairs is duplicated in other institutions, and I believe a great deal of lack of coöperation between museums comes from this cause. We are so busy with our own work—not only up to our necks, but over our heads—that it is physically impossible to do the things which we have to do, much more to take care of many things we are asked to do.

"I feel that I could not let this discussion close without putting ourselves right with you in this matter."

Mr. R. A. A. Johnston (Memorial Museum, Victoria, B. C.).—
"Some years ago we had an accumulation of material in the division of mineralogy, and applications were being received from all over the country for duplicates. The duplicates ran out but the applications continued to come in, so we established a system of sending out standard collections. There are two collections, one containing a hundred and fifty specimens and one containing forty-four. We keep a man doing nothing else but getting these together. We collect the specimens in the summer. Some are purchased from the producers and taken to the office and properly trimmed, labeled, cataloged, and packed. A text book on mineralogy goes with the cabinet. These are distributed free of charge to high schools, colleges, and other institutions of learning all over the United States and the Dominion of Canada."

Secretary Rea.—"Reducing this discussion to a concrete plan of action: If any small museum has a collection of minerals, whose labels have been misplaced or confused, and wishes to obtain some one with intimate knowledge of the mineral kingdom, and a perfect genius for supplying missing data, I can recommend a mineralogist of high attainments, who has done more than any other individual I know, to straighten out and put in order the mineral collections of the smaller museums.

"In the second place: I have been getting up an exhibit of asbestos, and I promised to send a duplicate set to my friend at Providence. It is a simple matter to lay out duplicates as I arrange my own exhibit. One year ago we ran an extensive silk culture exhibit, showing every stage of silk production. From this we obtained material for a very complete permanent exhibit. I could not take an order now to duplicate my material entirely, but if I knew at the time when I was preparing such an exhibit that one, or two, or a dozen institutions would be interested in it, with or without our labels, I should be glad to furnish that material at the exact cost to me. I believe that every museum, from the smallest up is constantly preparing something that could be utilized in this way.

"Now, is not this a practical suggestion? When an institution is planning new exhibits, let it drop a line to the secretary of this Association, giving a brief description of the character of the exhibit to be prepared, and some idea of the cost. I will undertake to send a circular of information to all our members, or to those who ask to be advised of exhibits of this kind in course of preparation. Then any person interested can communicate directly with the person preparing the exhibit."

Mr. E. L. Morris (Brooklyn Institute Museums).—"I think this is a very self-sacrificing offer, and we must keep track of that resolution and see that we do not forget it."

At the close of the next session Dr. Wilson reverted to this subject, as follows:

Dr. W. P. Wilson (The Philadelphia Museums).—"Before we close, Mr. President, I should like to make an announcement. Some of the small museums have stated that they would like a sort of round-robin collection which might be sent from one place to another to stir up interest of a little different kind from the regular exhibition of the museum.

"Now, I meet this suggestion by saying that I will get up such a

collection and send it to such museums as desire it on condition that each will give me a record of the extra visitors it may draw and all the circumstances of its use, in order to determine the success of the experiment for report to the Association next year at the Philadelphia meeting. I should like suggestions as to the most desirable subjects for these traveling collections."

Dr. Wilson's very generous offer was received with much enthusiasm, and considerable discussion of the nature of the exhibits ensued. The most definite suggestion came from Mr. Lewton, as follows:

Mr. Frederick L. Lewton (United States National Museum).—"I should like to make a suggestion regarding a loan exhibit which would be quite different from any other collection, and that would be along technological lines. With any one of our commonly used articles of manufacture as a basis, show each stage from the raw material to the completed article. While it might be out of place in a natural history museum, it would be unique in any museum of this country."

The meeting then adjourned.

SESSION OF THURSDAY, JUNE 6

Morning

The meeting was called to order at ten o'clock at the Central Museum of the Brooklyn Institute of Arts and Sciences, President Morse in the chair. Mr. Edward L. Morris, acting curator-in-chief of the Brooklyn Institute Museums made the following address of welcome:

Mr. Morris.—"Mr. President and fellow members of the American Association of Museums: It is a great pleasure to have you meet in Brooklyn. You have heard the Museums of the Brooklyn Institute of Arts and Sciences lauded to the skies by our friends, but we are always open to suggestion and we expect a flood of letters after you have gone home, offering advice as to ways of improvement here from the knowledge you have gleaned in visiting places where we have not been.

"The Brooklyn Institute Museums can best be understood if you know the following important facts: The museum is now in its thirteenth year, organized on so large a plan that we have only just gotten into long clothes, to say nothing of having gotten out of them. The building which appears comfortably large as you approach it, is only one-fourth of the building as planned, not including the dome section

and the connecting aisle. It is part of a very comprehensive plan, in which this building will be devoted to a comparatively narrow field, while the departments growing out of this will be cared for in other sections. I can hear you say, 'Dreaming!, dreaming!', but these have been the hopes and the thoughts of a man who feels that Brooklyn can be the center of a great educational work of this type. The carrying out of the details of the work of the Museum is the result of definite ideas and plans which have been crystallizing during the past ten years.

"When you go upstairs, the curators will be on hand to make explanations and to answer your questions. In conclusion, fellow members, we bid you all a most hearty welcome" (*Applause.*)

President Morse.—"Those of you who are familiar with the work here may remember its beginning in a branch of the Young Men's Christian Association. I remember seeing a trustee there working in his shirt sleeves to get this museum started. The result is seen in this admirable building.

"I will now call for the first paper of the morning, by Miss Magoon, assistant to the director of the Park Museum, Providence, R. I."

THE LOCAL FLORA PROBLEM IN A SMALL MUSEUM

Briefly stated, the local flora problem in any museum is the question of how to make the local flora most interesting and instructive to the general public to whom we minister; in other words, making the local flora of greatest intellectual and aesthetic value to all concerned.

In a small museum, limited as it so often is both in resources and means of support, the problem must be met very differently than in a large museum. It is with the hope, therefore, that some other small Museum may gain something in the way of encouragement or suggestion, that I shall present, with the aid of lantern slides, some of the ways along which the solution of this problem has been attempted in the Park Museum, Providence, Rhode Island.

Four years ago there was practically nothing in the plant line for our museum to work with, except some pressed specimens, and it is generally agreed that these are of little value for exhibition, and are seldom of use except for occasional scientific purposes.

Our problem being thus all-extensive and all-inclusive, the lines of approach had to be carefully chosen and gradually developed. The first branch of the plant world to be considered was that of for-

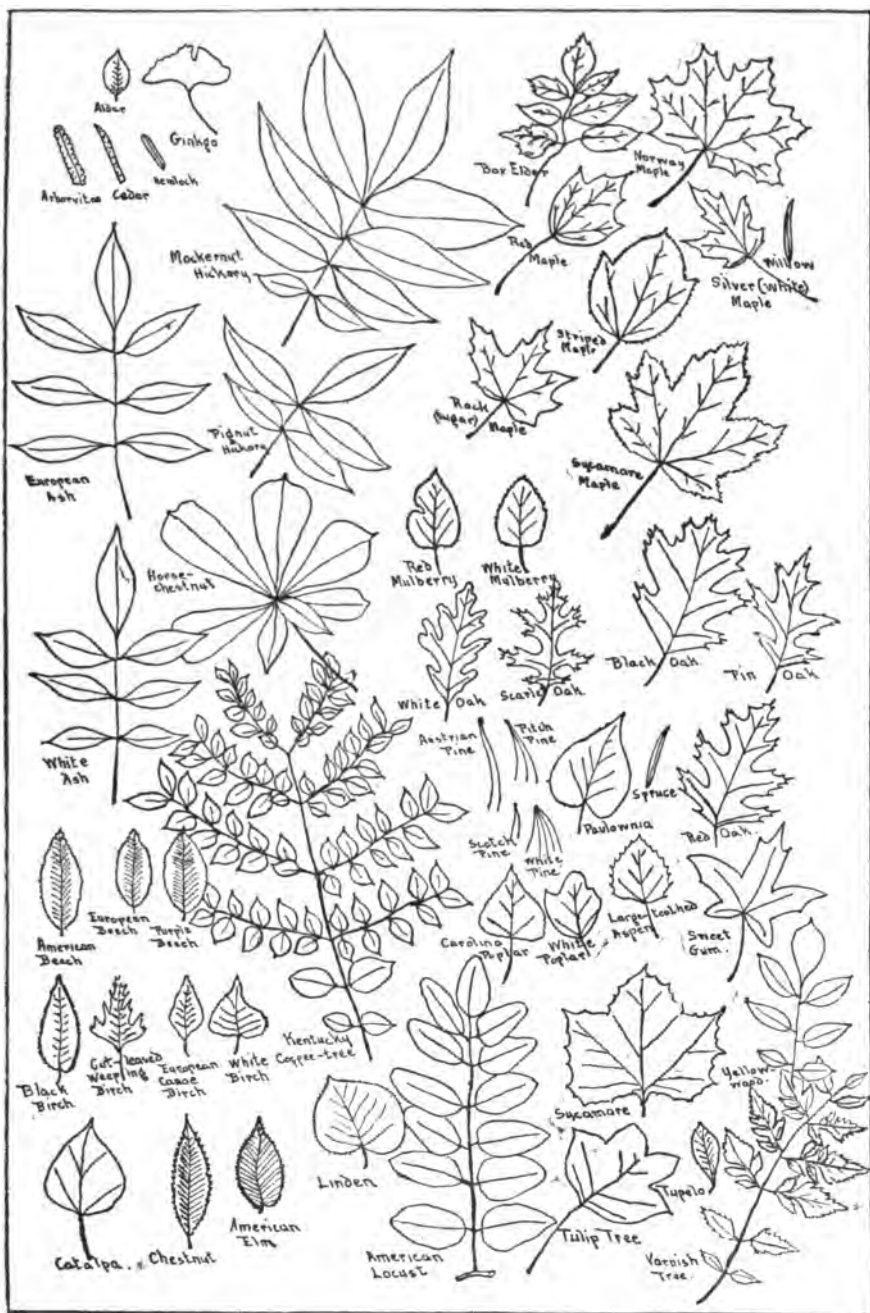
estry. Peculiar opportunities presented themselves here because of the nearness of some experiments in forestry on a prominent Rhode Island estate. The camera came into play at this point, and the lantern slides made from the photographs were utilized in illustrating public lectures.

Because Roger Williams Park, where the Park Museum is situated, is an exceptionally fine place to study shade trees, that has been one of the lines of the problem to be developed. Our bi-monthly publication was utilized for this purpose; the inner pages were covered with a map of the park, upon which was indicated the location of the various kinds of trees, the whole being accompanied by a suitable key. The plate shown in this article represents the last page of this same Bulletin, usable for identification of the trees by their leaves.

Flowers lend themselves for exhibit purposes for a brief time only, but that brief time can be utilized by the museum by the use of a flower table, where specimens may be placed in water and correctly labelled. The children are very much interested in this line of work, and opportunity will be found not only to give definite instruction along botanical lines, but also to urge conservation of the flowers liable to become extinct. The flower calendar is a means of arousing the public interest in the flowers in their season. Colored photographs are used for this purpose, making a constantly changing exhibit as last month's flowers are replaced by those for the present month. The colored lantern slides of flowers are a valuable asset to the museum botanical work, particularly those taken "in situ," because some of the actual surroundings of the plant may be shown in this type of photograph. The other type of photograph showing one or two flower stalks and leaves is, however, of great value when made into a lantern slide, since from these the flower structure and color can be carefully studied at close range in a transparency as well as when projected, much magnified, on the screen.

The lower forms of plant life should not be disregarded when a museum is engaged in the solution of the local flora problem. "Hard to exhibit," is the casual student's remark, but when that student comes to realize that mosses can be mounted permanently in glycerine jelly between thin sheets of mica and placed in a frame the size of a lantern slide, he must admit that, thus mounted, the museum has an attractive specimen to be used in the lantern as well as for actual exhibit.

These are the phases of the local flora problem which are being



An aid to the identification of trees used by the Park Museum, Providence, R. I.

attempted and experimented with in one small museum, yet in and through the gradual working out of these experiments we do not lose sight of the possibility of further coöperation with the Park Department so that we may have the ideal solution of the problem, viz.—the establishment of a botanical garden about the Museum which shall be instructive as well as aesthetic, having all sorts of wild flowers growing in their natural habitat, accessible for study and enjoyment, but amply protected.

President Morse.—"I am glad that Miss Magoon has presented this question of arboriculture, for the waste today is appalling. For one newspaper printed in New York City, thirty-two acres of spruce are annihilated daily. One should bear this in mind when he goes to China and sees regions one hundred square miles in area where men go along picking up seed and twigs and dried grass for fuel. Even the boiling pots in China are cast with the thinnest possible bottoms in order to get the most heat with the least expenditure of fuel. If we do not take up the question of arboriculture, we shall see able-bodied men going along our streets in America picking up peanut shells for fuel.

"You have heard probably that it is the law in Japan that whoever cuts a tree down must plant a new one in its place. As I crossed through the northern part of Japan at one time, I saw a tree surrounded by a little hoop fastened to three upright sticks, and I asked for the farmer who had planted it. I was told that it was not a farmer, but someone who had cut down a tree and planted another in its place in compliance with the law, and had protected it to insure its growth."

Dr. W. P. Wilson (The Philadelphia Museums).—"Mr. President, before we pass from Miss Magoon's paper and your remarks on arboriculture, I should like to say that two or three organizations in the state of Pennsylvania have recently issued a circular, urging protection for the forests against destruction, especially by forest fires. If any of the museums would like to have some of those circulars for distribution, and will send their names to me, I will gladly place them in touch with these organizations."

Mr. Edward L. Morris, acting curator-in-chief of the Brooklyn Institute Museums, presented the following paper:

THE POSSIBILITIES OF BOTANICAL EXHIBITS

In speaking upon the possibilities of botanical exhibits you will all agree with me that no botanical exhibit at present seems to be entirely satisfactory. The botanical exhibit which is of the oldest standing is a set of herbarium sheets mounted in swinging frames. The next most common exhibit is such as may be found in rows on rows of bottles of material chiefly interesting for its economic importance.

In no exhibit, so far installed, is there a complete and reasonable balance and breadth of treatment. The swinging frame exhibition of herbarium sheets but specializes the term which has been applied by some one, to the herbarium itself: "A graveyard of dead plants." It seems to me that one of the things most lacking in botanical exhibits is some indication of life—the fact that plants as well as other organisms have their life and processes, which are modified and altered by various changes in environment and conditions.

The physiological plant exhibit is largely an exhibit of apparatus. That can be proven by the fact that the most expensive exhibitions of plant physiology are those which accompany a course of study carried out largely in laboratories; and some of these laboratories have endeavored to keep a static exhibition of the course involved. But such exhibitions are largely an exhibition of apparatus.

The physiological effects upon plants caused by their environment and the causes underlying are to be noted by the manifestations which appear in many plants of the same kind. Accordingly, the exhibition of a single plant serves but one purpose, viz., as a picture of that species, or as a preserved specimen of it, or as a sample of a group more or less well-known.

Almost all such exhibits are confined to flowering plants, and those plants which may be more readily preserved and exhibited, or else they may be exhibits which cover the economic products derived from the plants. These constitute the two exhibit materials found in greatest number at the present time. Now, let me say, bottles after bottles of wheat and other grain are interesting to a specialist; but the general botanical exhibit should have but a couple of bottles of this kind. That is sufficient. And so, in parallel, there should be representatives of the important genera in shells; but it is out of the question to show the thirty-five thousand or forty thousand species

of shells in any museum room and expect anyone, except the specialist, to get any enjoyment through a visit to such rooms.

The same principle holds true with respect to plant material. We cannot begin to show all the kinds of bacteria, whether we have them in micro-photographs, or in glass or gelatine models, or whatever the plan we carry out. But most people will be amazed to find, if the exhibited material suggests the fact to them, that the peculiar little masses of green slime in the stagnant water of the little pool by the roadside or the pools they pass in going to our seaside resorts nearby, are constructed of delicate filaments the plan and structure of which is, in point of beauty and harmony of line, on a par with those used by the ancient artists, and if they had used the microscope and had known of the *Spirogyra*, they could have obtained almost the identical forms. You can follow up the proportions by scale calipers, and they are almost exactly the same. The ancients knew of nothing of the kind, and for most of the moderns, although we have the means, the same must be said.

My idea is to produce an exhibit of plants and their activities which shall give a balanced idea of the plant kingdom. The zoölogist recognizes that if he is to show animals in the museums they must be types of groups.

The mechanical presentation of botanical material is difficult and it has its vexing problems. Photographs of the rare plants can be obtained, or some of the plants themselves. But there is a difficulty with a botanical garden exhibit, if you wish your sightseer to have an opportunity during one visit to get a balanced idea of the vegetable kingdom. The botanical garden cannot produce the conditions under which all the things you wish to show can be presented at one time. The static museum may present such a mounting of plants.

A mechanical production of the exhibited material must be contrary to what Dr. Millspaugh said in this session: that he could not get away from the idea that the real thing should be shown; that pictures should be left out. So, contrary to Dr. Millspaugh's idea, I must insist that any presentation which is balanced and gives the person visiting it an idea that is reasonably correct is far better than the omission of some points in the balance because you cannot get the real thing.

We are arranging a series of three-dimension plants and their activities. Anything on the flat has always one disadvantage. We hope to get a rather short series from the simplest single-cell plants up to

the most complex flowering plants. We expect to get a series of exhibits which shall show the adaptation of plants to different kinds of environment. There will be a case showing plants that fly in the air; another with plants that are always moving about in the water; and another with plants which are injurious in their effects, through actual poison, to man and to other animal organisms. In contrast with these, the nearest related plants which are beneficial to man, the harmless plants from which the poisonous ones will be differentiated. We are to have a case showing the processes of forestry; the processes of lumbering; the plants useful in medicine; the plants used in the mechanical arts; the plants used in the decorative arts. And these are all possible by the exhibition of material without the duplication of a single species.

The usefulness of such a mass of material when gathered together will be assured in the possibility it affords of cross-reference. I know but two museums where the system of cross-reference has been attempted. If you have a series of medical plants to which medical students come, it may be arranged according to the standard text of *materia medica*, but some doctor may want to be able to find them classified according to a system where the plants are arranged in groups of the same character. Now it may be arranged so that both these can be ascertained by a simple cross reference.

The cost of making models which shall take the place of real plants or parts of plants will depend upon how extensive any museum officer decides to make his exhibition. Wax models are very reasonable in price if you have your own men to make them. Glass models are very expensive, but they are the only models which will represent certain plant types, such as those which are transparent and iridescent, and with many microscopic forms glass models are the only ones in which they can be recognized.

Upstairs you will find a small beginning. Your first impression if you are expecting a real system, is likely to be that it is either an accident or a horrible aggregation of material. That is due to the fact that we are now just moving into the hall to give a temporary exhibit there. But if you will read the labels you will acknowledge some idea of method in giving information to the public about plants.

To sum up: The possibilities of a plant exhibit should include the presentation of a balanced series of facts from the simplest to the highest, suggesting their various activities and the results flowing therefrom, together with the modifications which are due to change

of environment. It should also show their economic uses in various lines, and their effects, whether injurious or beneficial, or any other method of subdivision you may see fit to carry out. It will all be a question of your men and your money.

At the conclusion of Mr. Morris' paper, a suggestion was made that models could be made a hundred or more at a time and supplied to the smaller museums throughout the country.

The Chair then called upon Mr. Frank C. Baker, curator of the Chicago Academy of Sciences, who presented the following paper:

A METHOD OF EXHIBITING INSECT COLLECTIONS

A new type of case has recently been installed by the Chicago Academy of Sciences, for the exhibition of insects. This is a modification of the "A" case now in use in several institutions. As the cases are placed around the gallery, only half of the "A" is used (see Fig. 1).

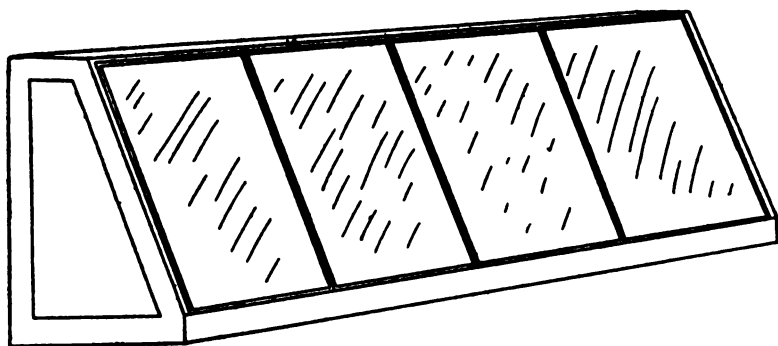
These cases are made in units, each unit holding four insect cases. The dimensions are as follows (see Fig. 2):

- Length of case, $78\frac{1}{2}$ inches.
- Height of case, 30 inches.
- Width at base, 18 inches.
- Width at top, 8 inches.
- Height of front to slope, 3 inches.
- Height of unit case inside, $29\frac{1}{2}$ inches.
- Depth of unit case inside, $3\frac{1}{2}$ inches.

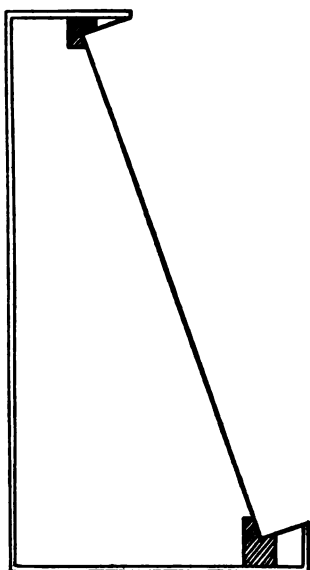
The individual insect cases measure as follows (Fig. 3):

- Length of case, inside, 28 inches outside 29 inches.
- Width of case, inside, 18 inches, outside 19 inches.
- Depth of case, inside, 3 inches, outside $3\frac{1}{2}$ inches.
- Depth of base, outside, $2\frac{1}{2}$ inches.
- Depth of lid, outside, 1 inch.

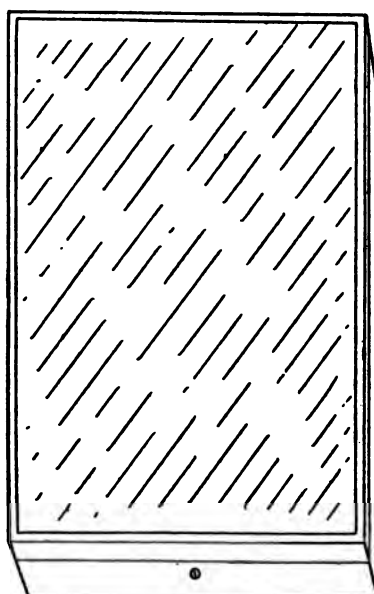
The unit case is made of quarter-sawed oak, finished dark; the insect trays are of the same material. The insect tray is provided with a heavy tongue and groove; the lid is hinged at the top and is fastened with a spring lock at the bottom. It is lined with cork carpet. The four insect trays when in place are flush with the edge of the unit case.



2



1



3

The unit case is placed on a railing about the gallery, thirty inches above the floor. This height enables any one to easily examine the exhibits, accommodating both children and adults. After considerable experimentation with backgrounds; both black and white, a royal worcester bristol board has been selected as the best neutral tint. The labels are printed on the same stock and there is, therefore, no conflict of shades between label and background, as so often happens when white is used. The entire insect tray, sides and bottom, is lined with the bristol board, thus giving the whole case a uniform color, against which the insects and insect larvae exhibited stand out in bold relief.

The preparation of an insect collection for public exhibition presents many difficulties. It has been abundantly demonstrated that the usual taxonomic collection presents little of interest aside from the gaudy colors of some of the butterflies and moths. With this situation in mind, the new collections have been planned to exhibit only such material as would be of interest or value to the average museum visitor. As local objects usually are of great interest, the common butterflies and moths, together with their life histories, the caterpillars mounted on their food plants, have been exhibited.

It was thought that the economic view point should not be lost sight of and an exhibit has accordingly been prepared showing the insects injurious to ornamental and shade trees of the parks and streets of Chicago and vicinity, together with the more destructive forest insects. For each species there are exhibited the life history of the insect, figures illustrating its habitats, and specimens of its destructive work. A label accompanies each separate exhibit detailing the life history, the kinds of trees affected, the nature of the damage, and suggested remedies or preventive measures. This exhibit thus becomes a manual of the subject, of special value to those citizens owning valuable trees. Its usefulness has already been abundantly demonstrated.

A somewhat unique portion of the exhibit is the introduction of some small habitat groups, with painted backgrounds, illuminated by hidden electric lights, depicting familiar localities in which insects live. These are all carefully prepared ecological groups of value to students of this subject. These groups embrace such topics as "Autumn Insects" (an open field with goldenrod and asters, with appropriate insects); "Old Log Habitat" (a rotten stump in the woods in May with appropriate vegetation, and insect and other life); "Swamp Insects" (shore of a swampy pool, in July, with insect and other life);

and "Beach Insects" (shore of Lake Michigan with line of beach debris, consisting of dead and living insects washed in by the waves, or blown in by the wind. The fact of the use of this material as food by plover and other birds, is brought out).

It is planned to treat the entire insect collection in this manner, thus making it in very truth an educational exhibition.

Dr. William T. Hornaday, director of the New York Zoölogical Park, gave the following paper:

THE DUTY OF AMERICAN ZOÖLOGISTS TO AMERICAN WILD LIFE

Throughout fifty years, to go no farther back, the people of America have been witnessing the strange spectacle of American zoölogists, as a mass, so intent upon the study of our continental fauna that they have not concerned themselves about the destruction of that fauna. During that period nine species of North American birds have been totally exterminated.

If by their works ye shall know them, then no man can say that the men referred to have been conspicuous on the firing line in defense of assaulted wild life. We know that in their hearts, in an academic way, the naturalists of America do care about wild-life slaughter and the extermination of species; and we know that perhaps forty American zoölogists have taken an active interest in protection work. Two or three are devoting their lives to it. But I am speaking now of the general body of museum directors and curators, professors and teachers of zoölogy in our institutions of learning—a legion in themselves, teachers of nature study in our secondary schools, investigators in state and government service, the taxidermists, and the army of literary people who, like all the foregoing, make their bread and butter out of the exploitation of wild life.

Taken as a whole, the people named above constitute a grand army of at least three thousand trained, educated, resourceful, and influential persons. They all depend upon wild life for their livelihood; and when they talk about living things, the public listens with respectful attention. Their opinions regarding wild life would be worth something in its protection; but thus far they never have been capitalized.

All these people are hard workers; and when they mark out definite courses and attainable goals, they know how to get results. And what do we see? For sixty long years, with the exception of the work of a small few of their number, this grand army has remained in camp, partly neglecting and partly refusing to move upon the works of the enemy. For sixty years, with the exception of the Audubon song-bird law, they have mostly left to the sportsmen of the country the dictating of laws for the protection of all the game birds, all the mammals, and all the fishes. When we stop to consider that the game birds embrace at least one hundred and fifty-four important species, the extent to which the zoölogist has abdicated in favor of the sportsman becomes apparent.

It is a very great mistake, and a wrong besides, for the zoölogists of the country to abandon the game birds, mammals, and fishes of North America to the sportsmen to do with as they please. Yet that is exactly what has been done.

The time was, thirty or forty years ago, when wild life was so abundant that we did not need to worry about its preservation. That was the golden era of study and investigation. That era ended definitely in 1884 with the practical extermination of the American bison through the shameful neglect of the American people. We are now living in the middle of the period of extermination. The question for every American zoölogist and teacher of zoölogy, and every sportsman to answer now is: Shall the slaughter of species go on to a quick end of the extermination period? Shall we give posterity a birdless, gameless continent, or not? Shall we have close seasons all over the country for five years, or for five hundred years? If we are courageous, red-blooded people we must answer these questions now like men. If we are faint-hearted, eager for peace at any price, then we will side-step the ugly situation until the destroyers have settled it for us by the wholesale extermination of species.

I could easily catalog the American zoölogists who have been active in the warfare for preservation, but it would serve no good purpose at this time. Let the reader ask himself or his friends who they are. Let him search the world over if he will, and I think that after he has done so he will report that out of all the zoölogists of the world, great, nearly-great, and small, only one man of real renown in the zoölogical world has been actively and aggressively promoting the cause of wild-life protection. That man is Henry Fairfield Osborn, president of the New York Zoölogical Society, the only

scientific body in the world which has as one of the prime objects of its existence "the preservation of our native animals." It is the only zoölogical organization in the world, as far as I can learn, that is freely spending money in this cause. Is it not strange that this is true?

Truly the time has come in which the zoölogists of America must adjust their minds to the new conditions that surround them. The collecting of scientific facts is lovely labor, and their publication is delightful—so long as some one else pays the cost and the salary. "Investigation" is the play of the scientists and we would all enjoy it mightily, were it not that our zoölogical house is on fire. No sane musician plays his piano while his house burns. The folly of it would be criminal. Today it is a crime for the zoölogists of America to investigate, teach, write, or stuff birds while the wild life is being slaughtered, raising no hand to stop it. It is criminal negligence, no less, and any zoölogist who is guilty of it should quit the field of zoölogy at once. The time has come to separate the sheep from the goats everywhere. Those who are not *for* wild life are *against* it.

The zoölogist who hitherto has been buried in his work may ask me: "What can I do in the matter?" I answer: Trained zoölogists are men and women of mental resources. They are accustomed to taking initiative, to creation, to organization and direction. A well-trained zoölogist is like a high-class business man; he knows how to attack any subject or cause and go to the bottom of it. More than that, he knows how to find out how to promote any cause.

If the zoölogist will believe me, then I will tell him that today the wild life of the world can be saved *by law*, but *not* by sentiment alone. You can not "educate" a poacher, a game-hog, a market-gunner, or a vain and foolish woman of fashion. All these must be curbed and controlled by law. Game refuges alone will not save the wild life. All species of birds, mammals, and game fishes of North America need more thorough and far-reaching legal protection than they now have.

Do not take your cue from the sportsmen regarding the enactment of long close seasons. If you need good advice or help about drafting a bill, write to Dr. T. S. Palmer, Department of Agriculture, Washington, and I think that you will receive prompt and most valuable assistance. The Doctor is a wise man, and there is nothing about protective laws that is unknown to him. Go to your state senator and your assemblyman with the bills that you know ought to be enacted into law and assure him that those measures are necessary for

the wild life, and for 98 per cent of the people who own the wild life. You will be heard with respectful attention in any law-making body that you choose to enter.

When your bill has been introduced, ask them for a hearing before the committee to which it has been referred. When it is granted, gather up your friends in force and present your reasons for the bill. Do not be afraid to speak earnestly, and in the name of The People demand whatever the wild life requires.

The people who can not give time and labor must supply you with money for your campaigns. Ask, and you will receive! I have proven this hundreds of times. Account to your subscribers with care and exactness for the expenditure of money placed in your hands, and you will receive continuous support.

In times of great stress, print circulars and leaflets by the ten-thousand and get them into the hands of the people, calling for their help. Our forty-two thousand copies of the "Wild Life Call" (sixteen pages) were distributed by organizations all over the state of New York, and along with Mr. Meloy's letters to the members of the New York State League, they aroused such a tidal wave of public sentiment against the sale of game that the Bayne bill was finally swept through the legislature with only one dissenting vote! And yet in the beginning not one man dared to hope that that bold and drastic measure could by any possibility be passed in its first year before the New York State legislature, even if it ever could be. It was the aroused Public that did it!

I will shortly place in your hands a volume that has been written (under great pressure) in order to put the whole situation before the people of America, including the zoölogists, and to give them some definite information state by state, regarding the needs of the hour. Look at the needs of your own state in the "Roll Call of the States" and you will find work for your hand to do. Clear your conscience by taking hold now to do everything that you can to stop the carnage and preserve the remnant. Twenty-five or fifty years hence, if we have a birdless and gameless continent, let it not be said that the zoölogists of America helped to bring it about by criminal negligence.

The morning session was brought to a close with a discussion of the meeting place of the Association for 1913. Invitations were presented from Chicago, Philadelphia, and Salt Lake City and the

matter was referred for decision to the Council, which afterwards reported in favor of Philadelphia. The following resolution was unanimously adopted:

Whereas, The American Association of Museums is unable to accept the invitations of the museums of Chicago and Salt Lake City to meet with them in 1913, be it

Resolved, That the sincere thanks of the Association be extended to these museums and their officers for their cordial invitations.

The Association adjourned for luncheon as guests of the Brooklyn Institute Museum, followed by inspection of the collections at the Central Museum. The remainder of the afternoon was devoted to a visit to the Children's Museum in Bedford Park. Children acted as guides and assisted in serving afternoon tea.

SESSION OF THURSDAY, JUNE 6

Evening

The session was called to order by President Morse. Mr. Harold L. Madison, curator of the Park Museum, Providence, R. I., gave the following paper, which was illustrated by lantern slides:

SOME EXPERIMENTS OF A SMALL MUSEUM

Seventeen years ago an art museum was erected in the center of the large city park at Providence, Rhode Island, at a cost of \$40,000. The first experiment as an art museum was a failure, and after a short time the institution was changed to a museum of natural history. The first two curators, Mr. Southwick and Mr. Davis respectively, were systematists, and during their administration collected many valuable and authentically identified specimens.

Slowly, therefore, the Museum became well equipped with material for the educational policy which was begun four years ago. On October 1, 1911, this educational policy was formally recognized when, at the request of the United States Census Bureau, the City Council rearranged its various departments and placed the Museum under the head of "Education" with a special appropriation of \$5000. It was also felt that three years' work justified the change from what had been regarded by many as merely a recreation place.

Experiments in coöperation. Sometimes it is not wise to coöperate. In our case the field of coöperation is large. Slowly our relations with Brown University, the Providence Public Library, the State College, State Audubon Society, State Department of Education, city schools, and the public press have become more and more intimate. All have met us more than half way in our efforts to make the Museum of service to the public. To illustrate: we cannot use any of the appropriation for advertising and must therefore depend entirely on the courtesy of the city papers. We were told by the editors to do things and they would support us. The city editor of one paper suggested that more space could be given in Monday's or Tuesday's issues. On our part we have tried to "do things," to keep out irrelevant matter, to send typewritten copy, and to send it on Monday morning when possible.

Lecture experiments. Museum lectures were a new departure to the people of Providence four years ago. Dr. Mead of Brown University, when consulted about the matter, suggested Sunday afternoon talks. When possible take the advice of your teacher. I did. The first lecture was given in one corner of a waiting room to about fifty people. We were told the plan would fail. The attendance at our Sunday afternoon lectures, never more than one half hour long, now averages one hundred, and the room is equipped with seats and the very best reflecting lantern. We have accumulated fifteen hundred lantern slides in three years.

School Coöperation experiments. This work includes lectures and loan material. Begun in the spring of 1909, the growth has been gradual, as shown by the records of 4000, 8000, and 12,000 children reached in successive years. Our first offer of coöperation at the office of a busy superintendent failed to bring results. With his permission we later sent out a printed statement of what the Museum had for the use of the teacher. Each teacher received a copy. Each year we have sent out a new list, and each year shows wider use of the Museum's facilities. The secret is courtesy and willingness to go to any trouble and get anything for the teacher.

A museum publication. Requests for catalogs led to the belief that a four-page bulletin giving the fundamental facts about an exhibit would be of value to the visitor who was interested enough in any subject to ask for information. The bulletins are free for the asking. We issue six numbers a year. Already two numbers have been exhausted and three others are almost gone. They are an important supplement to our case labels and we feel we have partially solved

our label problem by making the labels brief for the casual visitor and supplying the bulletins for the more seriously inclined.

Experiments with exhibits. Groups are a luxury for a small museum. By carefully planning in advance we have been able to purchase one or two small groups. The most important addition of this character is a Narragansett Indian Village model, made under the direction of Dr. C. C. Willoughby of the Peabody Museum of Ethnology at Harvard. Changing exhibits attract people. Among these are the bird calendar, flower calendar, and flower table. The most popular is a star exhibit. It consists of a hemispherical dome lined with canvas, painted black to represent the sky and having pinned on its inner surface white enameled zinc stars of first and second magnitude. Each constellation is labeled. One setting lasts a month. To change, the dome is lowered to the floor and with the aid of an astronomical globe the whole can be rearranged in about an hour.

Recently we have hung maps of the world and one of the city in the foyer. Often it is possible to label these for current events. We find them a valuable and attractive addition to our exhibits.

We have spent considerable time on the problem of backgrounds. Natural colored burlap or gray linen has been the most satisfactory. Scotch drapery linen is also good. On these we put block mounts painted black or brown or olive green, with a label to match the background and print to match the block.

Temporary exhibits bring many visitors and we install them from time to time. They have been used to illustrate some phase of a timely subject and whenever time and money would permit have proven of great value.

We try never to lose sight of two principles:

(1) That the Museum and its work must grow. That if it grows slowly but surely there will be fewer steps to retrace and each advance will be permanent.

(2) That the Museum must be primarily for the people whose taxes pay for its maintenance.

Dr. Carlos E. Cummings, secretary of the Buffalo Society of Natural Sciences, then presented pictures to illustrate the use of lantern slides in geography work, and Mr. Herbert E. Sargent, director of the Kent Scientific Museum, Grand Rapids, Mich., demonstrated a circulation case which he had designed for mounted birds. His paper is as follows:

CIRCULATION CASES FOR MOUNTED BIRDS

Believing that the practical results derived from discussions may be of equal value with the papers presented in our Association meetings, I ask your indulgence to revert to the subject of circulating bird cases, which was profitably discussed last year.

With utility and minimum expense in mind we have developed for use in the Kent Scientific Museum a case which I believe fulfills the requirements better than anything to which our attention has been called. It is made of heavy book cover-board covered with canvas much after the style of the travelling telescope. One end is hinged at the bottom and drops to allow insertion of the specimens. To prevent incruising of the sides when the box is closed, a strip of wood two inches wide is placed across the top of the loose end, being the thickness of the sides shorter at either side than the width of the end. The sides of the cover of the box are two inches wide, making it very rigid and solid.

In the bottom of the box are placed guides of pasteboard or, preferably, tin, in which the bases of the standards are placed. The dimensions of the box may vary to suit the judgment of the one using it. We had ours constructed 18" long, 9" wide and 8, 10, and 12" high. This width accommodates most of the birds commonly distributed, those which are too long to go crosswise of the box are placed lengthwise. The birds are mounted upon standards with uniform bases, the larger ones $3\frac{1}{2}$ " square by $\frac{1}{4}$ " high, the shorter $3\frac{1}{2}$ " by $2\frac{1}{4}$ " and $\frac{1}{4}$ " high. The standards are made as low as possible for utility and appearance.

For transporting we use woven cotton shawl straps which come at about twenty-five cents apiece. The expense of these boxes, provided with pasteboard holders, was sixty-five cents apiece on an order of thirty. The advantages we find in this style of box are that the specimens are interchangeable and we are able to include only those that are wanted, and that, being held in position so that they cannot materially move, they are practically safe from injury while in the box. The box being light in weight is easily carried and presents a respectable appearance, not unlike a travelling case. Its convenience to the teachers as compared with previous methods has resulted in nearly doubling the requests which have been made for specimens for classroom work.

The following resolutions were read by the Secretary and unanimously adopted:

Resolved, That the sincere thanks of the American Association be extended to the trustees and officers of the American Museum of Natural History, the Metropolitan Museum of Art, the Museums of the Brooklyn Institute of Arts and Sciences, the New York Zoölogical Park, the New York Botanical Garden, the New York Aquarium, Cooper Union, and the Staten Island Association of Arts and Sciences for the cordial hospitality extended to the Association on the occasion of its seventh annual meeting.

Resolved, That the American Association of Museums express its appreciation of the untiring efforts of Dr. Frederic A. Lucas, Mr. Henry W. Kent, Mr. Edward L. Morris, Miss Anna Billings Gallup, Dr. William T. Hornaday, Dr. N. L. Britton, Dr. Charles H. Townsend, Miss Eleanor G. Hewitt, and Mr. Charles L. Pollard in entertaining the Association.

Resolved, That the hearty thanks of the American Association of Museums be given to Dr. Henry Fairfield Osborn and Mr. Robert W. de Forest for the hearty welcome extended by them to the Association on behalf of their museums.

President Morse.—"I want to thank the members for their courtesy and kindness to me, and for their patience. I have sometimes called a paper in advance of its true order on the program, and probably called some of you by the wrong name, but you have been patient, and I express my appreciation of your courtesy and of the honor you gave me when you made me your president." (*Applause.*)

A motion for the formal adjournment of the sessions for business and papers was then carried.

On Friday the members assembled at the Zoölogical Park and were conducted through the grounds by Dr. William T. Hornaday. Luncheon was served by the Zoölogical Society. In the afternoon the party visited the Botanical Garden under the leadership of the director, Dr. Nathaniel Lord Britton. In the evening, dinner was served at the Hermitage, with Dr. and Mrs. Britton as hosts.

On Saturday the Staten Island Association of Arts and Sciences entertained the Association with an inspection of the Museum, luncheon, and an automobile trip about the island. A party was also entertained at the Southampton Art Museum on Long Island by the owner, Mr. Samuel L. Parrish. These excursions concluded the convention.

APPENDIX

CONSTITUTION OF THE AMERICAN ASSOCIATION OF MUSEUMS

ARTICLE I

NAME

The name of this Association shall be "The American Association of Museums."

ARTICLE II

OBJECT

The object of this Association shall be to promote the welfare of Museums, to increase and diffuse knowledge of all matters relating to them, and to encourage helpful relations among Museums and those interested in them.

ARTICLE III

MEMBERSHIP

All Museums officially represented at the first meeting of this Association, held at the American Museum of Natural History in New York, on May 15, 1906; all persons taking part in the organization of this Association, or who on the above date, or prior thereto, have by letter signified their wish to become members of the Association, shall become Charter Members on payment before the next annual meeting of the Association of the fees hereinafter provided for.

The Members of the Association shall be Active, Associate, Sustaining and Honorary.

Persons actively engaged in the work of Museums may become Active Members on the payment of three dollars per annum, and may become Active Members for Life upon payment of thirty dollars at any one time.

Persons contributing one dollar per annum may become Associate Members.

Each Museum paying not less than ten dollars a year shall be a Sustaining Member of the Association, and through its chief executive officer or a properly accredited representative, shall be entitled to cast a vote on all matters coming before the Association.

Persons distinguished for eminent services, either to the cause of Museums or to this Association, may become Honorary Members. The number of Honorary Members shall be limited to fifteen. When ten Honorary Members have been elected then thereafter not more than two such members may be elected annually.

Active and Sustaining Members only shall have a right to vote, and Active Members only may hold office.

Any Museum or person proposed in writing for Active, Associate, or Sustaining Membership by a Member of the Association, and approved by the Council, upon the payment of the proper fee shall become a Member of the Association.

Any person contributing five hundred dollars or more at any one time shall become a Patron of the Association.

ARTICLE IV

OFFICERS

The officers of the Association shall be a President, two Vice-Presidents, a Secretary, and a Treasurer, and six other persons designated as Councillors, and these eleven shall constitute the Council. The President and two Councillors chosen by the Association shall retire annually, and for one year shall be ineligible for re-election to the same office. An Assistant Secretary may also be elected.

ARTICLE V

COUNCIL

The general control of the affairs of the Association, except as otherwise herein provided, shall be vested in the Council.

ARTICLE VI

ELECTION OF OFFICERS

Officers shall be elected by ballot at the annual meeting.

The Council shall have power to fill any vacancies which may occur in its membership between annual meetings.

ARTICLE VII

MEETINGS

A general meeting shall be held in each calendar year. Special meetings may be appointed by the Association or called by the Council. The time and place of the annual meeting shall be determined by the Association. In order to diffuse a knowledge of Museums and their work, the Association shall meet in a different city or town each succeeding year, unless otherwise determined by the Association.

At the annual meeting papers may be read, matters relating to Museums discussed, and any business relating to the affairs of the Association shall be transacted.

Special meetings may be called by the Council in emergencies, and only matters stated in the call shall be considered at such special meetings.

ARTICLE VIII

PUBLICATIONS

The publications of the Association shall be distributed free to all Sustaining and Active Members who have paid their dues for the year of issue. Associate Members may obtain the Proceedings in paper covers at one dollar, or in cloth binding at one dollar and twenty-five cents.

ARTICLE IX

AMENDMENTS

This Constitution may be amended by a two-thirds vote of the members present and voting at any meeting, provided that every proposed amendment shall be first considered by the Council and be reported by the Council with or without recommendation.

REPORT OF THE TREASURER OF THE AMERICAN ASSOCIATION
OF MUSEUMS, PRESENTED AT THE THE ANNUAL MEETING NEW
YORK, JUNE 4-7, 1912

Balance on hand, May 20, 1911..... \$294.41

RECEIPTS

2	Active memberships for year ending May 15, 1910.....	4.00
34	Active memberships for year ending May 15, 1911.....	102.00
194	Active memberships for year ending May 15, 1912.....	582.00
6	Active memberships for year ending May 15, 1913.....	18.00
17	Associate memberships for year ending May 15, 1912.....	17.00
1	Sustaining membership for year ending May 15, 1910.....	10.00
2	Sustaining memberships for year ending May 15, 1911.....	20.00
34	Sustaining memberships for year ending May 15, 1912.....	365.00
1	Sustaining membership for year ending May 15, 1912 (in part)....	1.83
	Sale of publications and postage on same.....	109.04
	W. J. Holland, donation toward expenses of Secretary.....	200.00
	Field Museum of Natural History, donation toward expenses of Secretary.....	200.00
	Total receipts.....	\$1923.28

EXPENDITURES

1911		
May 26,	American Writing Machine Co. (typewriter rent).....	\$2.00
June 6,	Postage stamps, Treasurer's office.....	2.00
June 8,	P. M. Rea, Secretary (freight on <i>Proceedings</i>)..	3.25
June 8,	Nathan Sawyer & Son (printing programs and lists).....	28.00
June 8,	L. L. Weeks (expenses, Boston; salary, Nov.)...	89.70
June 9,	Williams & Wilkins Co (express on <i>Proceed- ings</i>).....	.22
June 8,	Philadelphia Museums (1000 receipt forms bound).....	3.00
June 19,	Wm. H. Hoskins Co. (200 loose leaf ledger sheets).....	1.50
June 21,	Law Reporters Co. (reporting proceedings, Bos- ton meeting).....	96.25
June 23,	Postage stamps, Treasurer's office.....	9.50
June 29,	Philadelphia Museums (printing 1000 circulars and 500 envelopes).....	3.06
July 7,	Charleston Museum (1½ doz. book boxes).....	17.50
July 7,	Standard Printing Co. (500 letter heads and envelopes).....	5.25
	Carried forward.....	\$321.23 \$1923.28

	Brought forward.....	\$321.23	\$1923.28
July 15,	L. L. Weeks, Asst. Secy. (salary, June and July) ..	60.00	
Aug. 3,	Williams & Wilkins Co. (1000 copies <i>Proceedings</i> and reprints).....	373.66	
Aug. 8,	W. P. Wilson, Treasurer, notary fee on affidavit.	.50	
Aug. 25,	L. L. Weeks (salary, Aug. and Sept.).....	60.00	
Sept. 5,	Standard Printing Co. (500 bill heads).....	2.50	
Sept. 5,	Williams & Wilkins Co. (postage and express on reprints).....	1.70	
Nov. 22,	L. L. Weeks, (salary, Oct. and Nov.).....	60.00	
Nov. 22,	Edward J. Murphy (200 folders for V. F. # 2404)	1.10	
Dec. 6,	P. M. Rea, Secretary (miscellaneous expenses) ..	27.39	
Dec. 6,	P. M. Rea, Secretary (advance for petty cash) ..	10.00	
Dec. 6,	P. M. Rea, Secretary (advance for postage for mailing <i>Proceedings</i>).....	20.00	
Dec. 6,	Philadelphia Museums (500 envelopes and print- ing).....	1.85	
1912			
Jan. 26,	L. L. Weeks, (salary, Dec. and Jan.).....	60.00	
Feb. 2,	Williams & Wilkins Co. (1000 copies 1911 <i>Pro- ceedings</i> and reprints).....	279.97	
	(100 envelopes printed, 500 cartons).....	18.00	
	(Postage and express on reprints).....	2.20	
Feb. 3,	Deutsche Zeitung (printing 1000 envelopes, 1000 slips, 1000 8-page folders).....	35.50	
Feb. 3,	P. M. Rea, Secretary (advance for petty cash ..	10.00	
Mar. 11,	L. L. Weeks (salary, Feb.).....	30.00	
Mar. 19,	Daggett Printing Co. (1000 letter heads).....	6.30	
Mar. 21,	Postage stamps, Treasurer's office.....	1.00	
Apr. 12,	Daggett Printing Co. (400 announcements)....	8.50	
Apr. 12,	L. L. Weeks (salary, March).....	30.00	
Apr. 26,	P. M. Rea, Secretary (advance for petty cash)..	10.00	
May 10,	P. M. Rea, Secretary (assistant's salary, April)..	30.00	
May 17,	Torsch & Franz Badge Co. (125 button badges and postage).....	7.70	
May 29,	A. A. Clinger (services for Treasurer for year ending May 15, 1912).....	50.00	
	Total expenditures.....		1459.10
	Balance in treasury, May 31, 1912.....		\$ 464.18

W. P. WILSON,
Treasurer.

Examined and found correct:

OLIVER C. FARRINGTON,
CHARLES W. JOHNSON,
HENRY L. WARD,
Auditing Committee.

MEMBERS OF THE AMERICAN ASSOCIATION OF MUSEUMS

SUSTAINING MEMBERS

The asterisk (*) denotes a Charter Member.

Academy of Natural Sciences of Philadelphia, Philadelphia, Pa.

*American Museum of Natural History, 77th St. and Central Park West, New York City.

*Art Association of Indianapolis (John Herron Art Institute), Indianapolis, Ind.

*The Art Institute of Chicago, Chicago, Ill.

Boston Society of Natural History, Boston, Mass.

*Brooklyn Institute Museum, Eastern Parkway, Brooklyn, N. Y.

*Carnegie Museum, Department of the Carnegie Institute, Pittsburgh, Pa.

*The Charleston Museum, Charleston, S. C.

*The Chicago Academy of Sciences, Lincoln Park, Chicago, Ill.

Cincinnati Museum Association, Cincinnati, Ohio.

City Art Museum, Forest Park, St. Louis, Mo.

Colorado Museum of Natural History, Denver, Col.

*The Corcoran Gallery of Art, Washington, D. C.

Department of Archaeology, Phillips Academy, Andover, Mass.

*Deseret Museum, Salt Lake City, Utah.

The Essex Institute, Salem, Mass.

*The Fairbanks Museum of Natural Science, St. Johnsbury, Vt.

*Field Museum of Natural History, Chicago, Ill.

Geological Survey of Canada, Ottawa, Canada.

Germanic Museum, Harvard University, Cambridge, Mass.

Joseph Moore Museum, Earlham College, Earlham, Ind.

*Metropolitan Museum of Art, New York City.

Museo de Historia Nacional, Montevideo, Uruguay.

Museo Nacional de Bogota, Bogota, Colombia.

Museum of the College of Liberal Arts, Northwestern University, Evanston, Ill.

*Museum of Fine Arts, Boston, Mass.

*New York Botanical Garden, Bronx Park, New York City.

*New York State Museum, Albany, N. Y.

Peabody Museum, Salem, Mass.

*Pennsylvania Museum and School of Industrial Art, Memorial Hall, Fairmount Park, Philadelphia, Pa.

Pennsylvania State Museum, Harrisburg, Pa.

The Philadelphia Museums, 34th St., below Spruce, Philadelphia, Pa.

*Public Museum of the City of Milwaukee, Milwaukee, Wis.

Springfield Art Museum, Springfield, Mass.

*University Museum, Department of Archaeology, University of Pennsylvania, Philadelphia, Pa.

Wadsworth Athenæum, Hartford, Conn.

*Washington State Art Association, Seattle, Wash.

Worcester Art Museum, Worcester, Mass.

LIFE MEMBERS

- Clowes, Herbert, Landscape Modeler, Public Museum of the City of Milwaukee, Milwaukee, Wisconsin.
- Crook, A. R., Curator, Illinois State Museum of Natural History, Springfield, Illinois.
- Graves, F. P., Graves Private Museum, Doe Run, Mo.
- *Hall, Robert C., Owner, Hall Museum of Anthropology, 240 Fourth Ave., Pittsburgh, Pa.
- *Henshaw, Samuel, Curator, Museum of Comparative Zoölogy, Harvard University, Cambridge, Mass.
- *Holland, W. J., Director, Department of the Museum, Carnegie Institute Pittsburgh, Pa.
- *Minot, Charles S., Harvard Medical School, Boston, Mass.
- Parrish, Samuel L., Southampton Art Museum, Southampton, Long Island, N. Y.
- *Talmage, James E., Director, Deseret Museum, Salt Lake City, Utah.
- Thayer, John E., Director, Thayer Museum, Lancaster, Mass.

ACTIVE MEMBERS

- *Adams, Charles C., Associate in Animal Ecology, University of Illinois, Urbana, Illinois.
- Adams, L. A., Director of the Museum, State Normal School, Greeley, Col.
- Adickes, Thomas W., Assistant Curator, North Carolina State Museum, Raleigh, North Carolina.
- Agostini, Serafino, Assistant Preparator, Department of Paleontology, Carnegie Institute, Pittsburgh, Pa.
- Aitkin, Helen J., Assistant, Brooklyn Institute Museum, Brooklyn, N. Y.
- *Akeley, C. E., Taxidermist-in-chief, Field Museum of Natural History, Chicago, Illinois.
- *Allen, J. A., Curator of Mammalogy and Ornithology, American Museum of Natural History, New York City.
- Altman, Frederick, Assistant Taxidermist, Brooklyn Institute Museum, Brooklyn, New York.
- *Ami, Henry M., Geological Survey of Canada, 453 Laurier Ave., East, Ottawa, Ontario.
- Atkinson, D. A., Custodian of Reptiles, Carnegie Museum, Pittsburgh, Pa.
- Austin, Thomas L., Curator, Erie Public Museum, Erie, Pa.
- *Baker, Frank C., Curator, The Chicago Academy of Sciences, Lincoln Park, Chicago, Ill.
- Baker, Helen J., Assistant, Metropolitan Museum of Art, New York City.
- *Barber, Edwin Atlee, Director of Museum, Pennsylvania Museum and School of Industrial Art, Philadelphia, Pa.
- *Barbour, Erwin Hinckley, Curator, State Museum, Lincoln, Neb.
- Barbour, Thomas, Associate Curator of Reptiles and Amphibians, Museum of Comparative Zoölogy, Cambridge, Mass.
- Barrett, S. A., Curator of Anthropology, Public Museum of the City of Milwaukee, Milwaukee, Wis.

Bassler, R. S., Curator of Paleontology, United States National Museum, Washington, D. C.

*Beatty, John W., Director, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.

*Bennett, Bessie, Assistant to the Director, The Art Institute of Chicago, Chicago, Ill.

*Berg, George L., Director, Washington State Art Association, Seattle, Wash.

Bethel, Ellsworth, President, Colorado Academy of Sciences, Denver, Col.

Bisbee, Marcia, Curator of Museum, University of North Dakota, University, North Dakota.

Boone, Cheshire Lowton, Director, Department of Art and Handiwork, Public Schools of Montclair, Montclair, N. J.

*Brigham, William T., Director, Bernice Pauahi Bishop Museum, Honolulu, H. I.

Brimley, Herbert H., Curator, North Carolina State Museum, Raleigh, N. C.

*Britton, N. L., Director-in-chief, New York Botanical Garden, Bronx Park, New York City.

Brock, Clarence L., Director, Houston Museum and Scientific Society, Houston, Texas.

Brown, C. Emerson, Curator of Vertebrates, Peabody Museum, Salem, Mass.

Brown, Charles E., Chief, State Historical Museum of Wisconsin, Madison, Wisconsin.

Brown, Stewardson, Curator of Herbarium, Academy of Natural Sciences, Philadelphia, Pa.

*Bryan, William Alanson, President, Pacific Scientific Institution, Box 38, Honolulu, H. I.

Bryant, William L., Custodian of Museum, Buffalo Society of Natural Sciences, Buffalo, N. Y.

*Bumpus, Hermon C., Business Manager, University of Wisconsin, Madison, Wisconsin.

*Burchard, Edward L., Director, Social Museum, Chicago School of Civics and Philanthropy, Chicago, Ill.

Carpenter, Newton H., Secretary, The Art Institute of Chicago, Chicago, Ill.

Casey, Thomas F., Superintendent of Buildings, Brooklyn Institute Museum, Brooklyn, N. Y.

Chandler, Anna C., Assistant, Metropolitan Museum of Art, New York City.

Chapman, Frank M., Curator of Ornithology, American Museum of Natural History, New York City.

Clarke, John M., Director, New York State Museum, Albany, N. Y.

Clifford, William, Librarian, Metropolitan Museum of Art, New York City.

Coggeshall, Arthur S., Preparator-in-Chief, Department of Paleontology, Carnegie Museum, Pittsburgh, Pa.

Cooke, Laura H., Special Assistant, Metropolitan Museum of Art, New York City.

Cooper-Prichard, A. H., Librarian, American Numismatic Society, New York City.

Courtney, Mrs. Elizabeth D., Assistant, Carnegie Museum, Pittsburgh, Pa.

Cummings, Carlos E., Secretary, Buffalo Society of Natural Sciences, Buffalo, New York.

- Cushman, Joseph A., Assistant Curator, Boston Society of Natural History, Boston, Mass.
- Dahlgren, B. E., Modeler, Department of Botany, Field Museum of Natural History, Chicago, Ill.
- Dana, John Cotton, Secretary, Newark Museum Association, Newark, N. J.
- *Dean, Bashford, Curator of Fossil Fishes, American Museum of Natural History; Curator of Arms and Armor, Metropolitan Museum of Art, New York City.
- *de Forest, Robert W., Trustee and Secretary, Metropolitan Museum of Art, New York City.
- Dodge, Charles Wright, Curator of Botany and Zoölogy, University of Rochester, New York.
- *Dorsey, George A., Curator of Anthropology, Field Museum of Natural History, Chicago, Ill.
- *Dow, George Francis, Secretary and Curator, The Essex Institute, Salem, Mass.
- *Dyche, L. L., Curator of Birds, Mammals, and Fishes, State University, Lawrence, Kan.
- *Eastman, Charles R., Carnegie Museum, Pittsburgh, Pa.
- *Eigenmann, Carl H., Curator of Ichthyology, Carnegie Museum, Pittsburgh, Pennsylvania.
- Elliott, Huger, Director of Education, Museum of Fine Arts, Boston, Mass.
- Emerson, Alfred, Assistant to Director, The Art Institute of Chicago, Chicago, Illinois.
- Emerson, B. K., In charge of Geology, Amherst College Museum, Amherst Mass.
- Failing, Henrietta H., Late Curator, Portland Art Association. Address: 617 Johnson Street, Portland, Oregon.
- Fairbanks, Arthur, Director, Museum of Fine Arts, Boston, Mass.
- Fairchild, H. L., Curator of Geology and Paleontology, Museums of the University of Rochester, Rochester, N. Y.
- *Farrington, Oliver C., Curator of Geology, Field Museum of Natural History, Chicago, Ill.
- Fisher, William L., Assistant Curator, Philadelphia Museums, Philadelphia, Pa.
- Flint, Sarah G., Assistant, Museum of Fine Arts, Boston, Mass.
- Forbes, Edward W., Director, Fogg Art Museum, Harvard University, Cambridge, Mass.
- *French, Wm. M. R., Director, The Art Institute of Chicago, Chicago, Ill.
- *Gallup, Anna Billings, Curator, Children's Museum, The Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
- Gardiner, Elizabeth M., Assistant to the Director, Worcester Art Museum, Worcester, Mass.
- Gay, Frank Butler, Director, Wadsworth Atheneum and Morgan Memorial, Hartford, Conn.
- *Gest, J. H., Director, Cincinnati Museum Association, Cincinnati, Ohio.
- Gilbert, James Zacchaeus, In charge Science and Art Museum, High School, Los Angeles, Cal.
- *Gilman, Benj. Ives, Secretary, Museum of Fine Arts, Boston, Mass.
- Gilson, Marjory L., Assistant Secretary, Newark Museum Association, Newark, New Jersey

- Gittings, Maud J., Custodian of Library, Carnegie Museum, Pittsburgh, Pa.
Glenk, Robert, Curator, Louisiana State Museum, New Orleans, La.
Goodale, George Lincoln, Honorary Curator, Botanical Museum, Harvard University, Cambridge, Mass.
*Goodyear, Wm. H., Curator of Fine Arts, Brooklyn Institute Museum, Brooklyn, N. Y.
*Gordon, G. B., Director, University Museum, University of Pennsylvania, Philadelphia, Pa.
Graenicher, Sigmund, Curator of Invertebrate Zoölogy, Public Museum of the City of Milwaukee, Milwaukee, Wis.
Grant, U. S., Curator, Museum of the College of Liberal Arts, Northwestern University, Evanston, Ill.
Greenman, Jesse M., Assistant Curator of Botany, Field Museum of Natural History, Chicago, Ill.
*Greenman, Milton J., Director, The Wistar Institute of Anatomy, Philadelphia, Pennsylvania.
*Griffin, Delia Isabel, Director, The Fairbanks Museum of Natural Science, St. Johnsbury, Vt.
*Griffith, A. H., Director, Detroit Museum of Art, Detroit, Mich.
Grinnell, Joseph, Director, Museum of Vertebrate Zoölogy, University of California, Berkeley, Cal.
Gueret, E. N., Assistant Curator, Division of Osteology, Field Museum of Natural History, Chicago, Ill.
Hall, F. S., Curator, State Museum, University of Washington, Seattle, Wash.
Hartman, C. V., Curator, Ethnographical Museum, Stockholm, Sweden.
Hathaway, Emily M., Assistant, Metropolitan Museum of Art, New York City.
*Henderson, Junius, Curator of the Museum, University of Colorado, Boulder, Colorado.
Henn, Arthur W., Assistant Curator, Indiana University Museum, Bloomington, Ind.
Hewitt, Eleanor G., Curator, Museum of the Arts of Decoration, Cooper Union, New York City.
*Hollick, Arthur, Curator, Department of Fossil Botany, New York Botanical Garden, New York City.
Hood, Ida Richardson, Assistant Librarian, American Museum of Natural History, New York City.
*Hooper, Franklin W., Director, The Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
*Hornaday, William T., Director, New York Zoological Park, New York City.
*Houston, S. F., Trustee, University of Pennsylvania, Philadelphia, Pa.
*Hovey, Edmund Otis, Curator, Department of Geology and Invertebrate Paleontology, American Museum of Natural History, New York City.
Howe, George P., Peabody Museum, Harvard University, Cambridge, Mass.
Howe, Marshall A., Curator of the Museum, New York Botanical Garden, New York City.
Howland, Henry R., Superintendent, Buffalo Society of Natural Sciences, Buffalo, N. Y.

- Hoyle, William Evans, Director, National Museum of Wales, City Hall, Cardiff, Wales.
- Hughes, D. C., Assistant, Section of Archaeology and Ethnology, Carnegie Museum, Pittsburgh, Pa.
- Hutchinson, Charles L., President, Board of Trustees, The Art Institute of Chicago, Chicago, Ill.
- Hutchinson, Susan A., Curator of Books, Brooklyn Institute Museum, Brooklyn, New York.
- Hyett, William James, Assistant in charge of Galleries, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.
- Jackson, Robert T., Assistant Curator, in charge of Paleontological Collections, Boston Society of Natural History, Boston, Mass.
- Jacobs, Ophelia, Curator, Daniel B. Dyer Museum, Kansas City, Mo.
- *Jenkins, L. W., Curator of Ethnology, Peabody Museum, Salem, Mass.
- Jennings, Otto E., Assistant Curator of Botany, Carnegie Museum, Pittsburgh, Pennsylvania.
- Jennings, Mrs. Otto E., Assistant in Section of Botany, Carnegie Museum, Pittsburgh, Pa.
- *Johnson, Charles W., Curator, Boston Society of Natural History, Boston, Mass.
- Johnston, R. A. A., Mineralogist and Curator, Geological Survey, Ottawa, Canada.
- Jones, Lynds, Curator, Zoological Museum, Oberlin College, Oberlin, Ohio.
- Judd, Albert F., President of Trustees of Bernese P. Bishop Museum, Honolulu, H. I.
- Judy, Herbert B., Artist, Brooklyn Institute Museum, Brooklyn, N. Y.
- Katzenberger, George A., Curator, Museum of Carnegie Library, Greenville, Ohio.
- Kent, Henry W., Assistant Secretary, Metropolitan Museum of Art, New York City.
- *Kermode, Francis, Curator, Provincial Museum, Victoria, B. C.
- Kroeber, Alfred L., Curator of the Anthropological Museum, University of California, Berkeley, Cal.
- *Kunz, George F., Honorary Curator of Gems, American Museum of Natural History, New York City.
- *Lamb, Daniel Smith, Pathologist, Army Medical Museum, Washington, D. C.
- Lewton, Frederick L., Curator, Division of Textiles, United States National Museum, Washington, D. C.
- Libbey, William, Director, E. M. Museum, Princeton, N. J.
- *Lindahl, Josua, Late Director of the Museum, Cincinnati Society of Natural History, Cincinnati, Ohio.¹
- Lippincott, Elsie, Librarian, Field Museum of Natural History, Chicago, Ill.
- Loomis, Leverett Mills, Director of the Museum, California Academy of Sciences, San Francisco, Cal.
- *Lucas, Frederic A., Director, American Museum of Natural History, New York City.

¹ Died July, 1912.

- Lucas, Jannette May, American Museum of Natural History, New York City.
- MacAlister, Mary T., Curator, Drexel Institute Museum, Philadelphia, Pa.
- *MacCurdy, George Grant, Curator, Section of Anthropology, Yale University Museum, New Haven, Conn.
- *McGuire, F. B., Director, The Corcoran Gallery of Art, Washington, D. C.
- McIlvaine, Caroline M., Librarian, Chicago Historical Society, Chicago, Ill.
- Maddox, Robert D., Curator, Medical Museum, University of Cincinnati, Cincinnati, Ohio.
- Madison, H. L., Curator, Park Museum, Providence, R. I.
- Magher, Margaret C., Assistant, Metropolitan Museum of Art, New York City.
- Magoon, Eva W., Assistant, Park Museum, Providence, R. I.
- Martin, Daniel S., Honorary Curator, Department of Geology, The Charleston Museum, Charleston, S. C.
- Mengel, Levi W., Director, Reading Public Museum, Reading, Pa.
- Meyers, Ira B., Curator, School of Education Museum, University of Chicago, Chicago, Ill.
- *Mills, William C., Curator and Librarian, Ohio State Archaeological and Historical Society, Ohio State University, Columbus, Ohio.
- Millsbaugh, Charles F., Curator of Botany, Field Museum of Natural History, Chicago, Ill.
- Millsbaugh, Mrs. Charles F., Chicago, Ill.
- *Miner, Roy W., Assistant Curator of Invertebrate Zoölogy, American Museum of Natural History, New York City.
- Miranda, Antonio, Artist, Brooklyn Institute Museum, Brooklyn, N. Y.
- *Montgomery, Henry, Head Curator of the New General Museum, University of Toronto, Toronto, Ontario.
- Montgomery, Thomas L., Director, Pennsylvania State Museum, Harrisburg, Pennsylvania.
- Moorehead, Warren K., Curator, Department of Archaeology, Phillips Academy, Andover, Mass.
- Morris, E. L., Acting Curator-in-Chief, Brooklyn Institute Museum, Brooklyn, N. Y.
- Morse, Albert P., Curator of Zoology, Wellesley College, Wellesley, Mass.
- *Morse, Edward S., Director, Peabody Museum, Salem, Mass.
- *Morse, Silas R., Curator, New Jersey State Museum, Trenton, N. J.
- Murphy, Robert Cushman, Curator, Division of Mammals and Birds, Brooklyn Institute Museum, Brooklyn, N. Y.
- Nichols, Henry W., Assistant Curator of Geology, Field Museum of Natural History, Chicago, Ill.
- Ortmann, Arnold E., Curator of Invertebrate Zoölogy, Carnegie Museum, Pittsburgh, Pa.
- Osgood, Wilfred H., Assistant Curator of Mammalogy and Ornithology, Field Museum of Natural History, Chicago, Ill.
- Paull, Florence V., Assistant, Museum of Fine Arts, Boston, Mass.
- Peabody, Charles, Assistant in European Archeology, Peabody Museum, Harvard University, Cambridge, Mass.
- Pennell, Ethel A., Assistant in charge of Photographs, Metropolitan Museum of Art, New York City.

- Perine, Clara N., Assistant to Director, The Wistar Institute of Anatomy, Philadelphia, Pa.
- Perkins, George H., Curator of the Museum, University of Vermont, Burlington, Vermont.
- *Peterson, Harry C., Director, Leland Stanford Junior Museum, Palo Alto, Cal.
- *Peterson, Olaf August, Field Collector and Preparator of Mammals and Birds, Carnegie Museum, Pittsburgh, Pa.
- Piers, Harry, Curator, Provincial Museum, Halifax, Nova Scotia, Canada.
- Pitkin, Albert Hastings, Curator of Ceramics, Morgan Memorial, Wadsworth Athenaeum, Box 867, Hartford, Conn.
- Pollard, Agnes L., Museum Assistant, Staten Island Association of Arts and Sciences, New Brighton, N. Y.
- Pollard, Charles Louis, Curator-in-chief, Museum of Staten Island Association of Arts and Sciences, New Brighton, N. Y.
- Prentice, Sydney, Artist and Illustrator, Carnegie Museum, Pittsburgh, Pa.
- Putnam, Edward K., Acting Director, Davenport Academy of Sciences, Davenport, Iowa.
- *Putnam, Frederick W., Honorary Curator, Peabody Museum, Harvard University; Professor Emeritus of Anthropology, University of California. Address: Cambridge, Mass.
- Ranck, Samuel H., Librarian, Grand Rapids Public Library, Grand Rapids, Michigan.
- Ransom, Caroline L., Assistant Curator, Dept. Egyptian Art, Metropolitan Museum of Art, New York City.
- *Rathbun, Richard, Assistant Secretary, Smithsonian Institution, in charge United States National Museum, Washington, D. C.
- *Rathmann, C. G., Director, Educational Museum, St. Louis, Mo.
- *Raymond, Percy E., Invertebrate Paleontologist, Geological Survey of Canada, Ottawa, Ontario.
- *Rea, Paul M., Director, The Charleston Museum, Charleston, S. C.
- Rice, William North, Wesleyan University Museum, Middletown, Conn.
- Robinson, Edward, Director, Metropolitan Museum of Art, New York City.
- Robinson, John, Keeper of East India Marine Society Relics, Peabody Museum, Salem, Mass.
- Rockwell, Robert H., Taxidermist-in-chief, Brooklyn Institute Museum, Brooklyn, New York.
- Rothermel, John G., Superintendent, Wagner Free Institute of Science, Philadelphia, Pa.
- *Rothrock, Boyd P., Curator, Pennsylvania State Museum, Harrisburg, Pa.
- Rothrock, Mrs. Boyd P., Accessionist and Foliage Worker, Pennsylvania State Museum, Harrisburg, Pa.
- Rowe, Louis Earle, Director, Rhode Island School of Design, Providence, R. I.
- Rueff, A. E., Assistant in Art Dept., Brooklyn Institute Museum, Brooklyn, N. Y.
- Ruthven, Alexander G., Head Curator of the Museum, University of Michigan, Ann Arbor, Mich.
- Sage, Cornelia Bentley, Director, Albright Art Gallery, Buffalo, N. Y.
- *Santens, Remi H., Chief Preparator, Taxidermic Laboratory, Carnegie Museum, Pittsburgh, Pa.

- Sargent, Herbert E., Director, Kent Scientific Museum, Grand Rapids, Mich.
Schoff, Wilfred H., Secretary and Assistant Treasurer, The Philadelphia Museums, Philadelphia, Pa.
*Schuchert, Charles, Curator of Geology, Peabody Museum, Yale University, New Haven, Conn.
Severance, Frank H., Secretary, Buffalo Historical Society, Buffalo, N. Y.
*Sherwood, George H., Assistant Secretary, American Museum of Natural History, New York City.
Shroobree, George, Chief Taxidermist, Public Museum of the City of Milwaukee, Milwaukee, Wis.
Silvester, Charles F., Curator of Zoölogy Museum of Princeton University, Princeton, N. J.
*Skiff, Frederick J. V., Director, Field Museum of Natural History, Chicago, Ill.
Skinner, Henry, Curator, American Entomological Society, Academy of Natural Sciences, Philadelphia, Pa.
Slocum, Anna D., Pond Street, Jamaica Plain, Mass.
Small, John K., Head Curator of the Museums and Herbarium, New York Botanical Garden, Bronx Park, New York City.
Smith, Frank, Curator of Museum, University of Illinois, Urbana, Ill.
Smith, Harlan I., Government Archaeologist, Ottawa, Canada.
Stejneger, Leonhard, Head Curator of the Dept. of Biology, United States National Museum, Washington, D. C.
Sterki, Victor, Assistant in Conchology, Carnegie Museum, Pittsburgh, Pa. Address: New Philadelphia, Ohio.
Stevens, Mrs. George W., Assistant Director, Toledo Museum of Art, Toledo, O.
Stevenson, Mrs. Cornelius, Assistant Curator and Lecturer, Pennsylvania Museum and School of Industrial Art, Philadelphia, Pa.
Stewart, Douglas, Assistant to Director, Carnegie Museum, Pittsburgh, Pa.
Stoddard, Herbert L., Assistant Taxidermist, Milwaukee Public Museum, Milwaukee, Wis.
*Stone, Witmer, Curator, Academy of Natural Sciences, Philadelphia, Pa.
Stotsenberg, J. MacPherson, Curator, The Wistar Institute of Anatomy, Philadelphia, Pa.
Swarth, Harry S., Curator of Ornithology, Museum of Vertebrate Zoölogy, University of California, Berkeley, Cal.
Sweeney, Arthur, Secretary, St. Paul Institute, St. Paul, Minn.
Taylor, W. P., Assistant Curator of Mammals, Museum of Vertebrate Zoölogy, University of California, Berkeley, Cal.
Thomas, E. H., Taxidermist, Kansas State Normal School, Emporia, Kansas.
Thompson, Helen, Assistant, University of Michigan Museum, Ann Arbor, Mich.
Tobitt, Edith, Librarian, Omaha Public Library and Museum, Omaha, Neb.
Toothaker, Charles R., Curator, The Philadelphia Museums, Philadelphia, Pa.
*Tower, Ralph W., Curator of Physiology, and Books and Publications, American Museum of Natural History, New York City.
*Townsend, Charles H., Director, New York Aquarium, Battery Park, New York City.
*Townsend, Louis H., Osteologist, Carnegie Museum, Pittsburgh, Pa.

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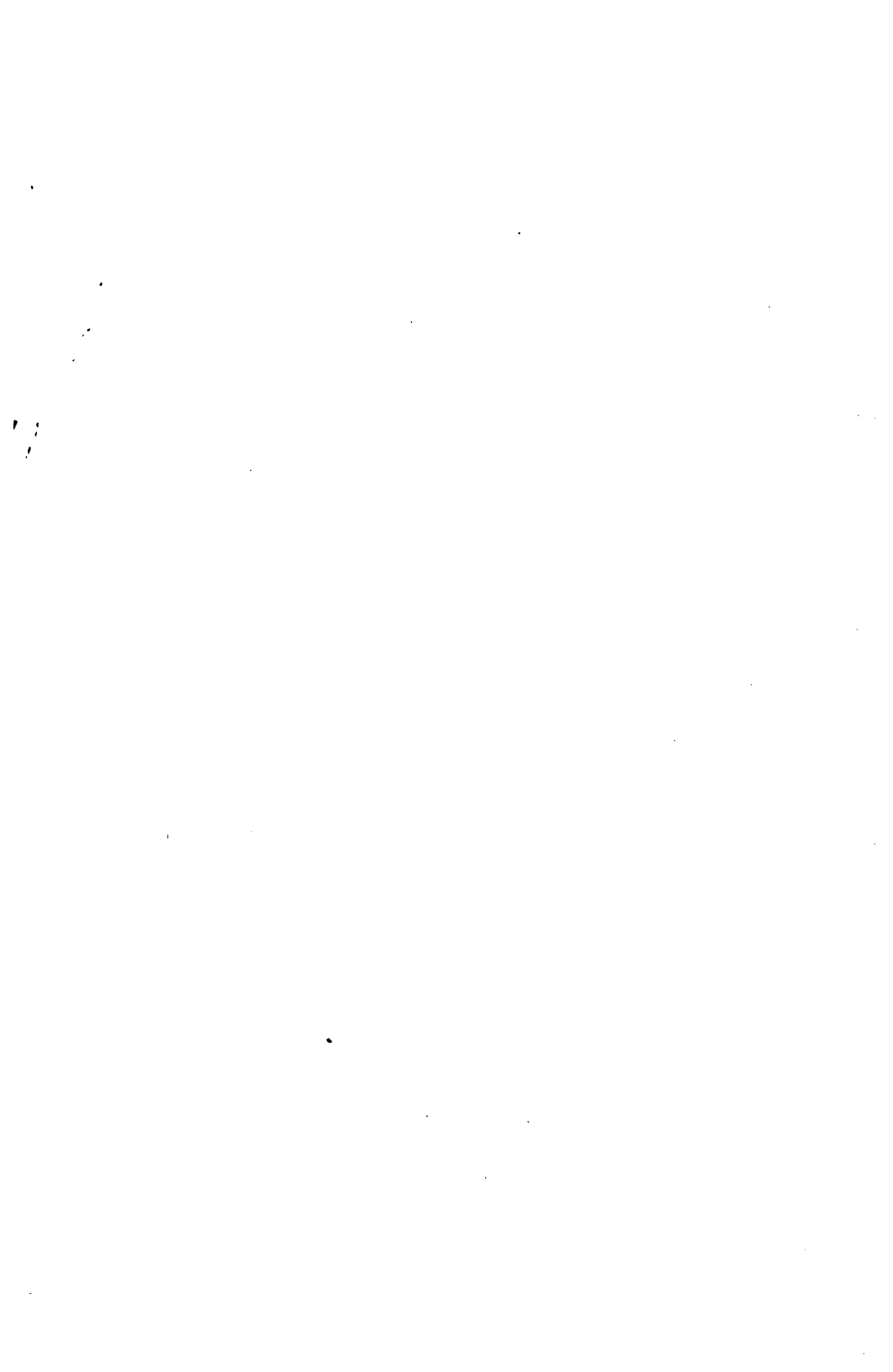
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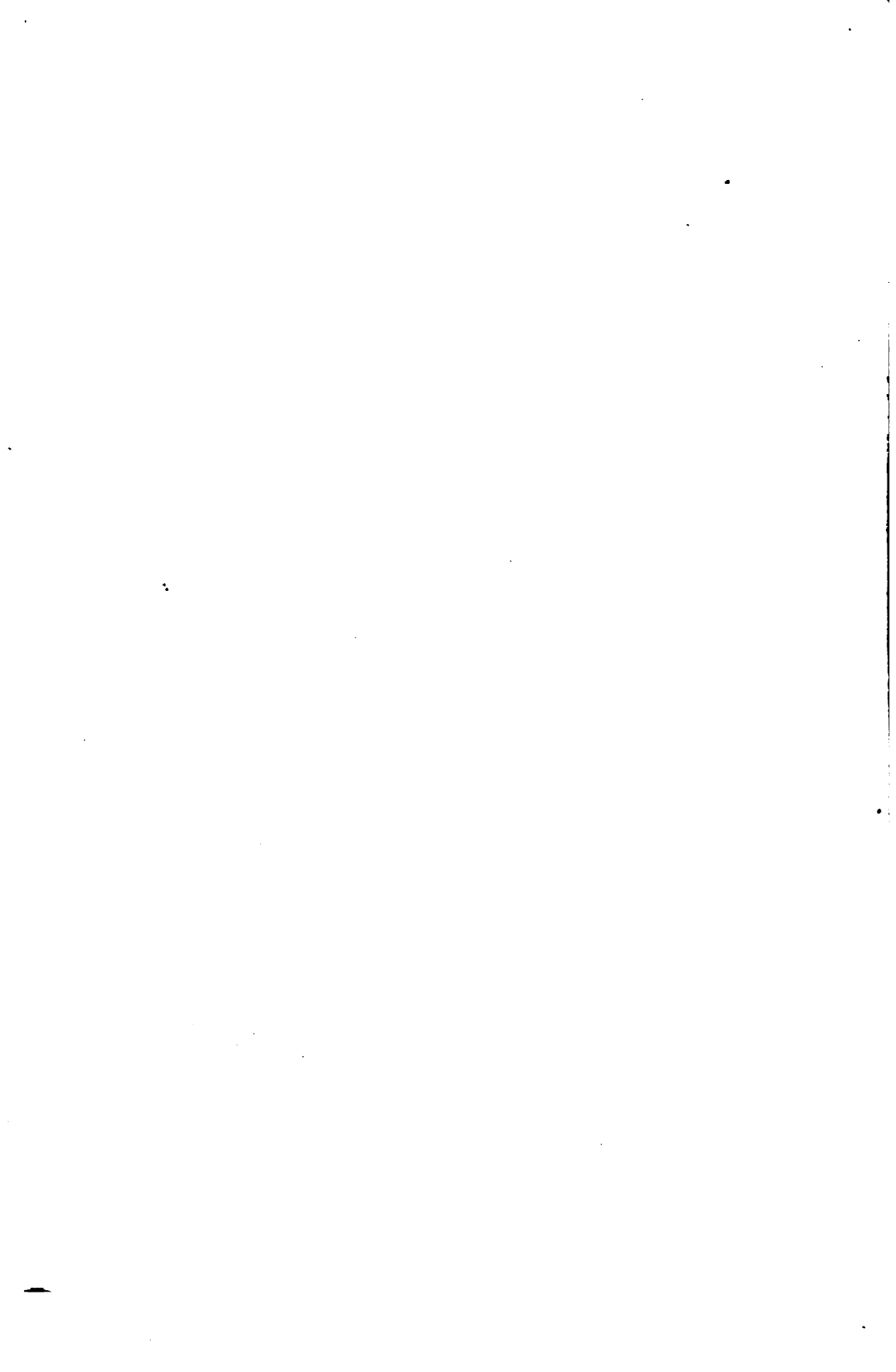
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